Every Job on the Card, Explained

The card is a list of names. This page is the rest of it.

Each entry does the same three things: says what the job is, describes a day of it, and explains what it takes to get in. No entry assumes you already know the vocabulary, and no entry assumes you are going to college.

Read it in any order. The headings are the card's categories, kept in the card's order, so a job you remember from the paper is in the same place here.

Build things people use

Product work. These nine roles turn an idea into something a person can open, tap, or play.

Software Engineer

What it is. Software engineers design, build, and maintain the systems that let computers do useful work, from the services behind a website to a company's internal tools. They turn a vague problem into a design, then into code other people can run and change.

A typical day. Mornings often go to reviewing teammates' code and answering questions about it. The longest stretch of building comes later, broken by a short planning meeting, and the day usually ends with debugging a failure or checking a fix.

What it takes. Most postings ask for a bachelor's degree in computer science or a related field, though many employers accept equivalent experience plus shipped work. Internships and personal projects are common ways in.

Front-End Developer

What it is. Front-end developers build the part of a product a person sees and touches: page layouts, forms, navigation, and the small interactions that make an interface feel responsive. They turn a visual design into code that behaves the same way across browsers and screen sizes.

A typical day. Much of the day goes to writing markup, styles, and scripts, then checking the result in several browsers and on a phone. Developers also meet with designers over spacing and error messages, and fix layout defects testers report.

What it takes. Most employers ask for a degree in computer science or a design-adjacent field, but a working portfolio often counts for more. Some employers accept equivalent experience, and community college coursework plus self-directed projects is a common route.

Back-End Developer

What it is. Back-end developers build the systems behind an interface: the logic that runs when someone submits a form, the databases holding the results, and the links to other services. Their code has no visible surface, yet it decides whether a product is fast and correct.

A typical day. A developer might design a database table, write an endpoint that reads from it, then test that it rejects bad input. Later hours go to reading production logs, tightening a slow query, or reviewing a change; on-call duty is common.

What it takes. Postings usually ask for a bachelor's degree in computer science or a similar field, with equivalent experience frequently accepted. Knowledge of Python, Java, or Go plus some database work is the usual baseline.

Full-Stack Developer

What it is. Full-stack developers work on both the interface and the systems behind it, so they can carry a feature from a database change through to the button a person clicks. The role suits smaller teams where one person sees a whole problem through.

A typical day. A single day might include adjusting a data model, writing the endpoint that exposes it, and wiring up the screen that displays the result. Developers also untangle integration problems, where the two halves disagree about what a field means.

What it takes. Employers commonly ask for a degree in computer science or equivalent experience, and many hiring managers weigh a working portfolio heavily. Breadth is commonly learned on the job, with most developers stronger on one side.

Mobile App Developer

What it is. Mobile app developers build software for phones and tablets, working within the limits those devices impose: modest memory, intermittent networks, small screens, and app store review. They handle the parts that are easy to underestimate, such as keeping data intact when a connection drops.

A typical day. Time goes to building screens, connecting them to a service, and testing on several physical devices rather than a simulator. Developers reproduce crash reports, prepare release builds, and spend some days on store paperwork and staged rollouts.

What it takes. Most postings ask for a bachelor's degree in computer science or a related field, though equivalent experience is often accepted. Published apps in a portfolio carry real weight, and some developers enter through quality assurance or web work.

Game Developer

What it is. Game developers build interactive entertainment, and the work splits across programming, art, design, audio, and production. A game developer in the narrower sense writes the systems that make play possible: physics, animation, input, save data, and the tools teammates use.

A typical day. A developer might tune a character's movement until it responds well, profile a level that stutters, or fix a fault that appears only when two systems interact. Playtests happen regularly, and the feedback drives the next day's changes.

What it takes. Most employers ask for a degree in computer science, game design, or a related field, and some employers accept a strong shipped portfolio instead. Game jams, modding, and small released projects are common entry points.

AR/VR Developer

What it is. AR/VR developers build software for headsets and augmented reality devices, where the interface surrounds the user and motion sickness is a real design constraint. They work on spatial tracking, hand and controller input, and rendering that holds a steady frame rate on modest hardware.

A typical day. Much of the day is spent testing in a headset, because problems with comfort and scale do not appear on a monitor. Developers tune interactions, measure frame timing, and rebuild scenes that feel wrong in three dimensions.

What it takes. Postings usually ask for a degree in computer science or a related field, often with coursework in graphics or human-computer interaction; equivalent experience is sometimes accepted. Familiarity with a real-time engine and a portfolio of spatial demos help.

UI/UX Designer

What it is. UI/UX designers decide how a product should work and how it should look, covering research into what people need, the flow between screens, and the visual details of buttons, type, and color. They produce evidence rather than code: interview notes, journey maps, wireframes, and prototypes.

A typical day. A designer might run a usability session, watch someone struggle with a flow, and revise the prototype the same afternoon. Time also goes to sketching options, arguing through tradeoffs with engineers, and maintaining a library of reusable components.

What it takes. Employers commonly ask for a degree in design, human-computer interaction, or a related field, and a portfolio usually decides the hire. Some employers accept equivalent experience; career changers often enter through research or front-end work.

QA/Test Engineer

What it is. QA and test engineers find the ways software fails before customers do, combining planned test cases with exploratory probing and automated checks. They investigate reported defects, narrow them to reproducible steps, and judge which ones should block a release.

A typical day. Mornings often start with reviewing what changed since the last build and deciding what to test. The rest of the day goes to automated tests, reproducing bugs, and writing reports clear enough for a developer to fix quickly.

What it takes. Many testers enter with an associate degree or none and learn on the job, though most postings now ask for a bachelor's degree; equivalent experience is widely accepted. Certifications such as CompTIA A+ are sometimes listed but rarely required.

Keep the internet running

Operations work. These roles keep the machines, networks, and data that everything else depends on alive.

Network Engineer

What it is. Network engineers design and maintain the paths that data follows between buildings and cities. They plan how routers, switches, and fiber links connect, then tune them so traffic moves without delay. Their work sits beneath nearly every online service.

A typical day. A network engineer reviews dashboards for congested links, configures routing changes, and tests failover between circuits. The job includes documenting address ranges, replacing aging hardware, and confirming that cabling matches the diagrams. Outages interrupt the schedule and demand immediate troubleshooting.

What it takes. Most postings ask for a bachelor's degree in networking or computer science, and many accept equivalent hands-on experience. Cisco CCNA or CompTIA Network+ certification is common and helps candidates without a technical degree.

Systems Administrator

What it is. Systems administrators run the servers that host an organization's internal applications, file shares, and directory services. They install updates, manage accounts and permissions, and keep backups usable. The role is less about building systems than about keeping existing ones trustworthy.

A typical day. Mornings often start with a check of overnight alerts, disk capacity, and failed backup jobs. The rest of the day goes to patching servers, adjusting group policy, answering account requests, and testing restores. Maintenance schedules push work into evenings.

What it takes. Employers commonly look for a bachelor's degree in information technology or equivalent experience, though associate degrees and internal promotions are frequent routes. CompTIA Server+ or a vendor certification in Windows administration is often listed as a plus.

Cloud Engineer

What it is. Cloud engineers build and operate the same kinds of servers and storage, except the hardware belongs to a cloud provider. They translate an organization's requirements into virtual networks, managed databases, and access policies. Cost control and security boundaries matter as much as uptime.

A typical day. A cloud engineer writes infrastructure definitions, reviews bills for runaway resources, and tightens identity permissions. They respond to alerts about failed deployments and help application teams connect to managed services. Much of the day is spent in a web console and a code editor.

What it takes. Many postings ask for a bachelor's degree in computer science, and equivalent operations experience is widely accepted. An AWS or Azure associate-level certification is commonly expected.

DevOps Engineer

What it is. DevOps engineers build the automated pipeline that moves code from a developer's machine into production. They connect version control, testing, packaging, and deployment so releases happen predictably. The role blends software development with systems operations.

A typical day. A DevOps engineer maintains build scripts, fixes broken pipelines, and reviews configuration changes from application teams. They write small tools to remove manual steps and investigate why a deployment failed. Conversations about permissions and release timing fill much of the schedule.

What it takes. Most employers ask for a bachelor's degree in computer science or equivalent professional experience, and many hire from systems administration or software testing. Familiarity with a cloud platform and a configuration tool is often required.

Site Reliability Engineer

What it is. Site reliability engineers keep large public services available under heavy load. They treat operations as an engineering problem, measuring how often a service fails and how quickly it recovers. They also set the standards that decide when a release is too risky to ship.

A typical day. An SRE reviews error budgets, investigates latency spikes, and writes automation that removes repetitive recovery work. They run practice failure exercises, adjust alert thresholds, and join incident calls when a service degrades. Post-incident reviews consume time and produce written action items.

What it takes. Postings usually ask for a bachelor's degree in computer science, along with prior experience running production systems. Strong programming ability is commonly required, and equivalent operations experience can substitute.

Platform Engineer

What it is. Platform engineers build the shared tooling that other engineers use to deploy and run their software. They create self-service environments, standard build images, and internal documentation so product teams avoid repeating setup work. The customer is a colleague, not the public.

A typical day. A platform engineer interviews application teams about friction, then ships improvements to shared templates and pipelines. They maintain internal developer portals, upgrade base images, and answer support requests in a chat channel. Much of the work removes toil that other teams would otherwise duplicate.

What it takes. Employers commonly seek a bachelor's degree in computer science or comparable experience, often with a background in DevOps. Some roles value cloud certification, though demonstrated tooling work usually matters more.

Database Administrator

What it is. Database administrators keep the stored records an organization depends on available, consistent, and recoverable. They tune queries, manage access, and plan capacity as data volumes grow. The recovery plan matters as much as daily operation.

A typical day. A DBA checks backup completion, reviews slow query reports, and applies vendor patches during planned windows. They restore copies for testing, adjust indexes, and grant or revoke access after approval. When replication lags or a disk fills, the day stops and the fix begins.

What it takes. Employers commonly ask for a bachelor's degree in computer science or information systems, and equivalent experience with production databases is often accepted. Vendor certifications sometimes appear, though hands-on recovery work carries more weight.

Data Center Technician

What it is. Data center technicians handle the physical side of computing: installing servers, running cables, and swapping failed parts. They work in buildings full of racks, power, and cooling equipment. Their accuracy determines whether remote engineers can trust the hardware.

A typical day. A technician racks new servers, labels and connects network cables, and decommissions retired equipment. They follow work orders to replace drives and power supplies, then confirm monitoring shows the change. Inventory counts and cable audits recur on a fixed schedule.

What it takes. These roles commonly hire from associate degrees, trade school programs, or apprenticeships, and some employers train beginners. CompTIA A+ or Server+ certification is often helpful, and prior help desk work is a realistic route.

IT Support Specialist

What it is. IT support specialists are the first people employees reach when a device, account, or application stops working. They diagnose problems, fix what they can, and route the rest to deeper specialists. Good support means writing down fixes for the next person.

A typical day. A support specialist works a ticket queue, resets passwords, and talks users through fixes in person or by phone. They image new laptops, install software, and document recurring issues. Escalations to network or server teams require clear notes.

What it takes. Entry routes include an associate degree, a trade school certificate, an apprenticeship, or CompTIA A+ certification, and some employers hire without prior experience. Help desk work itself is the standard path into better technical roles.

Hardware Engineer

What it is. Hardware engineers design the physical machines that computing depends on, from circuit boards to complete server chassis. They choose components, draw schematics, and test prototypes against power, heat, and reliability limits. The work sits between electrical engineering and product design.

A typical day. A hardware engineer reviews schematics, runs simulation software, and measures prototype boards in a lab. They debug signal problems with oscilloscopes, revise layouts, and coordinate with manufacturing partners about tolerances. Documentation and design reviews take as much time as bench work.

What it takes. Most postings ask for a bachelor's degree in electrical or computer engineering, and some require a master's for design-heavy roles. Technician backgrounds sometimes lead into hardware design, though that path is less direct.

Electronics Technician

What it is. Electronics technicians build, test, and repair circuit boards and the equipment that contains them. They read schematics, use meters and oscilloscopes, and replace components down to the board level. Their work keeps industrial, medical, and communications hardware in service.

A typical day. A technician receives a failed unit, traces the fault with test equipment, and replaces or reflows the damaged part. They solder connections, run calibration checks, and record results in a maintenance log. Some days go to building new assemblies from drawings.

What it takes. Common entry routes include an associate degree in electronics, a trade school program, or an apprenticeship, and military training is widely recognized. Industry credentials for electronics technicians are often valued, and employers frequently train on specific equipment.

Keep people safe

Security work. These roles assume something will go wrong and work to make the damage smaller when it does.

Security Analyst

What it is. A security analyst monitors alerts from firewalls, endpoint tools, and login systems, then decides which ones describe a real event. Much of the work is sorting routine noise from the few items that need a person.

A typical day. Overnight alerts are cleared first, each checked against known activity and closed with a short note. Later hours go to tuning noisy detection rules, documenting cases, and escalating what needs deeper investigation.

What it takes. Most employers ask for a bachelor's degree or equivalent help desk experience. CompTIA Security+ and CySA+ are common entry certifications, though some employers will train an apt candidate.

Penetration Tester

What it is. A penetration tester is hired, under a signed agreement, to break into an organization's systems the way a real intruder would, then report what worked. The value is in the report and the repairs that follow, not in the access.

A typical day. Time splits between reconnaissance, trying known weaknesses against test systems, and writing findings with reproduction steps and a suggested remedy. Testers also re-test fixes a client claims to have made.

What it takes. Postings usually ask for a bachelor's degree or equivalent hands-on experience, and many testers arrive from network administration. Certifications such as CompTIA PenTest+ or SANS/GIAC courses are

common.

Cybersecurity Engineer

What it is. A cybersecurity engineer builds and maintains the controls other security staff depend on: endpoint agents, log pipelines, access rules, and the systems enforcing them. The work is closer to systems administration than investigation, and engineers turn policy into something a machine enforces.

A typical day. Days go to deploying and upgrading security tooling, chasing agents that stopped reporting, and adjusting firewall or identity rules for change requests. Engineers also script repetitive checks and document configurations.

What it takes. Employers commonly ask for a bachelor's degree or equivalent systems administration experience, and several years in IT are commonly expected first. Vendor cloud or security certifications are often listed.

Security Architect

What it is. A security architect sets the long-term shape of an organization's defenses, deciding how networks, identities, and data stores fit together so controls hold as systems change. The output is a design document or standard, not running code.

A typical day. Time goes to design reviews, reading proposals for new systems and marking where they would create exposure. Architects also maintain standards, settle disputes over which control applies, and explain tradeoffs to approving managers.

What it takes. Most postings ask for a bachelor's degree plus a decade of combined IT and security experience, and many architects come up through engineering. CISSP is commonly held, with vendor architecture certifications often listed.

Cloud Security Engineer

What it is. A cloud security engineer applies the same defensive discipline to systems running in rented data centers, where identity and configuration settings replace much of the hardware boundary. Misconfiguration is the usual problem, not a clever attacker.

A typical day. The engineer reviews configuration changes before release, checks that storage is not publicly exposed, and trims permissions that grant more access than the task requires. Automated checks that flag risky settings are built and maintained.

What it takes. Most employers ask for a bachelor's degree or equivalent experience, with scripting and one cloud platform commonly required. Vendor security certifications for that platform are frequently listed.

Digital Forensics Analyst

What it is. A digital forensics analyst examines devices, disks, and logs after an incident to reconstruct what happened and preserve evidence in a form that withstands scrutiny. The work is procedural, and a handling mistake can undermine a finding.

A typical day. The analyst images drives and memory, then works through file artifacts, browser history, and timestamps to build a timeline. Notes and chain-of-custody records are kept as the work proceeds, and findings become a report.

What it takes. Postings usually ask for a bachelor's degree in digital forensics or a related field, or equivalent investigative experience in law enforcement or incident response. SANS/GIAC forensic courses are common.

Incident Response Analyst

What it is. An incident response analyst takes over when an alert proves to be a real compromise, coordinating containment and the return to normal operations. The role is part investigation and part project management under time pressure, decided on incomplete information.

A typical day. A live case means isolating affected machines, pulling logs from several systems to establish scope, and briefing managers on what remains unclear. Between incidents, analysts rehearse playbooks, run tabletop exercises, and share an on-call rotation.

What it takes. Employers commonly ask for a bachelor's degree or equivalent experience, usually with prior analyst or systems administration work. CySA+, CISSP, or SANS/GIAC incident handling courses are common.

GRC Analyst

What it is. A governance, risk, and compliance analyst maintains the evidence showing that an organization's security program matches the frameworks and rules it claims to follow. The work is documentation, control mapping, and review, done so an auditor can follow the trail unassisted.

A typical day. The analyst collects screenshots, policy versions, and ticket records to prove a control operates, filing each against the relevant requirement. Meetings with control owners whose evidence is missing, policy drafting, and auditor questions fill the rest.

What it takes. Most postings ask for a bachelor's degree, often in business or information systems, or equivalent audit and compliance experience. CISA, CISSP, or Security+ are commonly held, and audit experience is often valued alongside the degree.

Make machines smart

Data and machine work, from statistics to robotics to chips where physics sets the rules.

Machine Learning Engineer

What it is. Machine learning engineers build software that improves from examples rather than from hand-written rules. They take a model from a research notebook and turn it into a service that answers real requests.

A typical day. Mornings often go to checking model metrics and reading reports about wrong answers. Afternoon work might involve retraining a pipeline, packaging a model behind an interface, or tracing why accuracy dipped after an upstream data change. Reviews with the people who own the product are routine.

What it takes. Most employers ask for a bachelor's degree in computer science or a related field, and equivalent experience is often accepted. A record of shipped models tends to matter more than coursework.

AI Researcher

What it is. AI researchers invent new ways for machines to learn, rather than applying methods that already exist. The work mixes mathematics, experiments, and writing. Results usually appear as papers, talks, or internal reports that other teams build on.

A typical day. A researcher might read new preprints in the morning, then run or monitor training experiments through the afternoon. Time goes to writing up results, reviewing the work of peers, and arguing with colleagues about whether a measured gain is real or noise.

What it takes. Research positions commonly expect a graduate degree, and many ask for a doctorate with a publication record. Some teams hire engineers with strong mathematics and a body of independent research instead.

Computer Vision Engineer

What it is. Computer vision engineers build systems that interpret images and video. Work ranges from spotting defects on a production line to reading documents or tracking objects in a camera feed. It pairs model training with the plumbing of cameras, lighting, and labels.

A typical day. A large share of the day goes to curating and labeling image sets, then training and evaluating models against them. Engineers also tune for the hardware that will run the model, since a camera has far less compute than a training machine.

What it takes. Postings usually ask for a bachelor's degree in computer science, electrical engineering, or a similar field, or equivalent experience. A TensorFlow Developer certificate is one common way to show familiarity with the tooling.

NLP Engineer

What it is. Natural language processing engineers build systems that read, search, summarize, and generate text. Modern work leans on large pretrained language models that are adapted to a specific job. The role is as much about evaluation and safety as about model code.

A typical day. Engineers build test sets of real queries and score outputs against them. They also wire models into applications, tune retrieval over a document collection, and investigate failures such as fluent but wrong answers. Reviewing flagged conversations with safety colleagues is routine.

What it takes. Employers commonly ask for a bachelor's degree or equivalent experience, with solid programming and some background in linguistics or machine learning. Cloud machine learning certifications are commonly listed as an advantage.

Data Scientist

What it is. Data scientists answer open-ended questions with data, usually ones needing statistics, not a fixed report. They frame the problem, choose a method, and interpret what the numbers can and cannot support. Communication carries as much weight as modeling.

A typical day. A data scientist might pull and clean a dataset, fit a model, and check whether the result holds under a different slice of the data. Hours go to meeting the team that asked the question and turning findings into a short written brief.

What it takes. Most postings ask for a bachelor's degree in statistics, economics, computer science, or a related field, and many accept equivalent experience. CompTIA Data+ or a cloud data certification is sometimes listed as preferred.

Data Analyst

What it is. Data analysts answer concrete questions: how many, how often, compared to what. They build the reports and dashboards that a team checks regularly. The role rewards precision and a sense of which number actually settles an argument.

A typical day. Analysts write queries against a warehouse, verify that a metric means what people think it means, and update dashboards before a meeting. A large share of the day goes to reconciling definitions, because two teams often count the same thing differently. Requests arrive by ticket or chat.

What it takes. Most employers ask for a bachelor's degree or equivalent experience, and query language skills matter more than the major. CompTIA Data+ is a common entry-level certification, though it is rarely mandatory.

Data Engineer

What it is. Data engineers build and maintain the pipelines that carry data from source systems into warehouses and models. When an analyst's report is wrong in the morning, the cause is often upstream. The role is software engineering with an interest in reliability.

A typical day. Engineers write and review code for ingestion jobs, watch scheduled runs, and repair failures. They also design schemas, run backfills after a bug, and add checks that catch bad records before anyone reports on them. On-call rotations are common.

What it takes. Postings usually ask for a bachelor's degree in computer science or equivalent experience, plus fluency in a language such as Python or Java and in SQL. Cloud data engineering certifications are frequently listed as helpful.

Robotics Engineer

What it is. Robotics engineers build machines that sense their surroundings and move through them. The work spans mechanical design, motors, control software, and the sensors that tie the pieces together. Most projects end in a physical test, where theory meets friction and gravity.

A typical day. An engineer might tune a control loop in simulation, then move to the bench to test the same motion on hardware. Afternoons often go to integration, chasing a sensor that reports late or a joint that overshoots its target.

What it takes. Employers commonly ask for a bachelor's degree in mechanical, electrical, or software engineering, or equivalent experience. Work with a student team or a hobby project is commonly treated as real evidence of ability.

IoT Engineer

What it is. IoT engineers connect physical devices, such as sensors, meters, and appliances, to networks and software. The job covers the device, the radio link, and the service that collects what the device reports. Constraints like battery life and unreliable connections shape every decision.

A typical day. Engineers write firmware, test how a device behaves when the network drops, and measure power draw against a target. They also manage fleets of deployed units, pushing updates and watching for devices that stop reporting. Security reviews of the connection and update path are routine.

What it takes. Most postings ask for a bachelor's degree in electrical or computer engineering, or equivalent experience. Familiarity with microcontrollers and networking often counts for more than a specific credential.

Embedded Systems Developer

What it is. Embedded developers write the software that runs inside a device, close to the hardware and often with no screen or conventional operating system. Code must fit strict limits on memory, power, and timing. A late interrupt is a real fault rather than a slow page.

A typical day. The work involves writing C or C++ for a microcontroller, bringing up a new board, and debugging with a logic analyzer. Developers read datasheets, test timing under load, and reproduce faults that appear only after hours of running.

What it takes. Most employers ask for a bachelor's degree in computer or electrical engineering, or equivalent experience. Comfort reading schematics and using bench equipment is often expected; coursework alone rarely covers it.

Drone Systems Engineer

What it is. Drone systems engineers build aircraft that fly without a pilot on board, and the software that steers them. Work covers flight control, navigation, payloads, and the safety logic that keeps a failure from becoming a crash. Testing happens outdoors under operating rules.

A typical day. Engineers run simulated flights, then repeat them on a test airframe with propellers removed or tethered. They log telemetry, tune control gains, and trace why a craft drifted off a planned path. Approval paperwork and incident review take time.

What it takes. Postings usually ask for a bachelor's degree in aerospace, electrical, or software engineering, or equivalent experience. Some employers value a remote pilot certificate, though it is usually not required for the engineering role.

Bioinformatics Specialist

What it is. Bioinformatics specialists apply code and statistics to biological data, most often DNA and RNA sequences. They turn raw instrument output into something a biologist can interpret. The role sits between the laboratory and the data center.

A typical day. A specialist might run a sequencing pipeline, check quality scores, and align reads against a reference genome. The bulk of the day goes to writing scripts that clean data and compare results across samples. Meetings with laboratory scientists to interpret a surprising variant are common.

What it takes. Employers commonly ask for a bachelor's degree in bioinformatics, biology, computer science, or a related field, and many ask for a master's. Equivalent experience with sequencing analysis is sometimes accepted instead.

Quantum Computing Researcher

What it is. Quantum computing researchers study machines that compute using quantum states, which behave very differently from ordinary bits. The field is experimental, and current devices are noisy, small, and error-prone. The work spans physics, mathematics, and control engineering.

A typical day. A researcher might design a circuit, run it on hardware, and analyze the noise that swamps the result. The rest of the day goes to calibrating equipment, writing simulation code, and reading theory. Results are written up for publication or presented to collaborators.

What it takes. Research roles commonly expect a graduate degree, and most ask for a doctorate in physics, computer science, or a related area. Some engineering tracks accept a master's with strong laboratory experience.

High-Performance Computing Engineer

What it is. High-performance computing engineers keep clusters of thousands of machines working as one large computer. They manage job schedulers, fast networks, and storage that must feed many processors at once. The role supports scientists whose work would otherwise take years.

A typical day. Engineers monitor queues, investigate jobs that fail after hours of running, and tune configurations so shared hardware is used well. They install and patch software across the cluster, benchmark new hardware, and help researchers whose code runs slowly. Outages require methodical diagnosis.

What it takes. Most postings ask for a bachelor's degree in computer science or a related field, or equivalent experience, often with Linux systems administration behind it. Some employers prefer a master's for senior roles.

Blockchain Developer

What it is. Blockchain developers build systems where records are shared across many machines and changes are hard to make quietly. Work splits between protocol-level code, which handles consensus and networking, and application code such as smart contracts. Mistakes are expensive because deployed code often cannot be patched casually.

A typical day. A developer writes and tests contract code against adversarial cases, reviews the work of peers, and studies audit findings. Time goes to local test networks, fee measurement, and monitoring live systems. Security review before release is standard practice.

What it takes. Most employers ask for a bachelor's degree in computer science or equivalent experience, with strong programming skills. Security certifications are occasionally listed, but a record of audited, working code carries more weight.

People jobs that pay like tech jobs

Non-coding work inside a technical organization. These roles need technical judgment more than syntax.

Product Manager

What it is. Product managers decide what a product should do next and why, then defend those choices with evidence. They study customer problems, competing options, and business constraints, and turn the findings into a prioritized set of features an engineering team can actually build.

A typical day. A morning may go to reading usage data and support complaints; an afternoon to arguing scope with an engineering lead and reviewing an unfinished design. Most write short decision documents recording what was chosen and what was turned down.

What it takes. Postings usually ask for a bachelor's degree or equivalent experience, often in a technical field, plus several years working near software as an engineer, designer, analyst, or support specialist.

Technical Project Manager

What it is. Technical project managers keep a single software project on schedule, on budget, and visible. They own the plan, the risk list, and the status reports, and they notice in week three that a dependency will not arrive in week six.

A typical day. They run a stand-up or two, update the schedule, chase the team that owes them an estimate, and write a status note for people who are not in the room. Much of the work is asking uncomfortable questions early enough that the answer is still cheap.

What it takes. Employers commonly ask for a bachelor's degree or equivalent experience and several years coordinating technical work, often starting as a project coordinator, analyst, or team lead. The PMP is common but rarely mandatory.

Technical Program Manager

What it is. Technical program managers handle work that spans several teams, where no single project plan covers the whole picture. They map dependencies between groups, negotiate shared milestones, and keep leadership informed when two teams' schedules contradict each other.

A typical day. They sit in cross-team reviews, maintain a program-level timeline, and follow up on the handoffs that nobody owns. Much of the job is writing: charters, decision records, and escalation notes built to survive forwarding.

What it takes. Most postings ask for a technical bachelor's degree or equivalent experience and several years in engineering, project management, or program coordination. Some employers favor a PMP or SAFe credential; most treat it as a plus rather than a gate.

Scrum Master

What it is. Scrum masters run the team's recurring ceremonies and clear the obstacles that slow it down. They do not write code or assign tasks. Their job is to make the team's own process visible and then fix what keeps breaking it.

A typical day. They facilitate a daily stand-up, a planning session, and a retrospective, keep grooming of the backlog on schedule, and spend the gaps untangling a blocked environment or a missing approval. They track impediments in writing so that patterns become obvious.

What it takes. Many scrum masters start as project coordinators, business analysts, or testers before moving into the role. Most employers ask for a bachelor's degree or equivalent experience, and the Scrum Alliance CSM or a similar credential is common, though rarely mandatory.

Agile Coach

What it is. Agile coaches work above the team level, teaching groups how to plan, review, and improve together. They diagnose why delivery keeps stalling and then coach managers, product people, and engineers on the habits that would fix it.

A typical day. They observe meetings, run workshops on planning or estimation, and coach a team lead through a conflict rather than resolving it for them. They also read delivery data to find where work queues up and present the pattern back to leadership.

What it takes. Most agile coaches spend years as a scrum master, project manager, or engineering lead first. Postings often ask for deep familiarity with several frameworks; the PMI-ACP, SAFe, or Scrum Alliance credentials are common but not usually required.

Engineering Manager

What it is. Engineering managers run a team of engineers. They own hiring, performance, and the team's delivery commitments, and they are expected to understand the technical work well enough to judge whether a plan is realistic.

A typical day. They hold one-on-one meetings, sit in hiring loops, unblock a frustrated engineer, and defend the team's capacity in a planning meeting. Many still read code and review designs, though they write far less than they used to.

What it takes. This is almost always a promotion from engineering rather than an entry route. Postings usually ask for a bachelor's degree or equivalent experience plus several years as a software engineer, and often some time leading projects or mentoring before the management step.

Director of Engineering

What it is. Directors of engineering manage the managers. They set technical direction across several teams, decide how headcount and budget are divided, and answer for delivery at a level where the details have already been summarized twice.

A typical day. The calendar fills with reviews, planning cycles, and conversations with product and finance counterparts. They spend much of their time on hiring plans, organizational design, and the occasional escalation that a manager could not settle alone.

What it takes. Directors nearly always come up through engineering and management, typically several years as an engineer and then several more managing managers. Employers commonly ask for a bachelor's degree or equivalent experience; business or leadership study is sometimes preferred but seldom required.

Technical Writer

What it is. Technical writers produce the instructions, references, and explanations that let people use a product without calling support. They interview engineers, test the steps themselves, and turn internal knowledge into documentation that stays correct after the next release.

A typical day. They read a specification, corner an engineer with questions, run through a setup procedure to see where it breaks, and revise a page that a customer complaint showed to be wrong. Release weeks bring heavy editing and review cycles.

What it takes. Most postings ask for a bachelor's degree or equivalent experience and a portfolio of writing samples, often combined with subject knowledge gained in support, testing, or a technical trade. Some employers accept a strong writing background plus demonstrated technical curiosity.

Technical Trainer

What it is. Technical trainers teach adults how to use software, tools, or systems. They build the course material, deliver it in classrooms or over video, and adjust when a room full of experienced users is clearly bored.

A typical day. They prepare lab exercises, teach a session, answer questions that reveal a gap in the product or the documentation, and follow up with written work. Between courses they revise material to match a new release.

What it takes. Most employers ask for a bachelor's degree or equivalent experience plus a few years using the technology being taught, often gained in support, operations, or implementation. Teaching experience or a training certification helps but is commonly learned on the job.

Developer Advocate

What it is. Developer advocates represent a product to the people who build with it. They write sample code, speak at meetups and conferences, and bring complaints from the developer community back to the product team in a form engineers will act on.

A typical day. They draft a tutorial, record a demonstration, answer questions in a community forum, and prepare a talk for a conference. The rest goes to internal meetings where they argue for the fix that would have prevented the question.

What it takes. Advocates usually arrive as engineers, technical writers, or community organizers with visible public work such as open source contributions, talks, or a technical blog. Postings usually ask for a bachelor's degree or equivalent experience, but the portfolio tends to matter more.

Sales Engineer

What it is. Sales engineers handle the technical half of a sales conversation. They map a customer's environment and requirements onto what the product can do, and they say plainly when it cannot do the thing the customer assumed.

A typical day. They join discovery calls, build and run demonstrations, answer security questionnaires, and write the technical sections of a proposal. Weeks when a large deal is closing are dominated by trial installations and troubleshooting inside someone else's test system.

What it takes. Most sales engineers come from support, implementation, systems administration, or engineering rather than from sales. Postings often ask for a bachelor's degree or equivalent experience and comfort presenting to a room, which is usually learned on the job.

Technical Account Manager

What it is. Technical account managers are the customer's consistent technical contact inside the vendor. They learn one organization's setup in detail, track its open issues, and make sure its requests do not disappear between support tiers.

A typical day. They hold regular calls with customer engineers, review open tickets before those calls, and translate an operational complaint into a clear internal request. They also prepare quarterly reviews showing what was fixed and what is still pending.

What it takes. Most technical account managers come from support, customer success, or implementation roles. Postings often ask for a bachelor's degree or equivalent experience plus a few years facing customers on technical problems; product knowledge is usually taught internally.

Customer Success Engineer

What it is. Customer success engineers help customers get real use out of a product after the sale. They handle onboarding, configuration, and the adoption problem that appears months later when a large share of licensed users have stopped logging in.

A typical day. They run onboarding sessions, adjust settings for a customer's workflow, build a report the customer asked for, and flag accounts that look like they are drifting away. Much of the work is diagnosing why a technically working product is not being used.

What it takes. Employers commonly ask for a bachelor's degree or equivalent experience and a few years in support, implementation, or consulting. The technical depth needed is usually product-specific and learned on the job rather than in a degree program.

Technical Recruiter

What it is. Technical recruiters find and screen engineers for open roles. They read a resume for real signal, run a first conversation that filters for both skill and fit, and keep candidates interested through a process that is often slow and clumsy.

A typical day. They source candidates, send messages, run screening calls, brief hiring managers on who is worth interviewing, and manage the schedule for the ones who advance. Rejection calls and last-minute declines are a routine part of the week.

What it takes. Many technical recruiters start in recruiting coordination, staffing agencies, or human resources before specializing. Most postings ask for a bachelor's degree or equivalent experience; the ability to discuss a technical stack credibly is usually built through years of hiring for one.

UX Researcher

What it is. UX researchers study how people actually use a product and report what they find. They design interviews and usability tests, watch where participants struggle, and turn the observations into evidence that designers and product managers can act on.

A typical day. They recruit participants, run interview sessions, take notes and recordings, then synthesize the material into themes and short clips. A large part of the job is presenting findings to a team that would rather be building.

What it takes. Most employers ask for a bachelor's degree or equivalent experience in psychology, human factors, design, or a related field, plus a portfolio of completed studies. Some researchers move over from support, design, or analytics after years of close customer contact.

IT Service Delivery Manager

What it is. IT service delivery managers own whether the help desk and support teams actually meet their commitments. They set response targets, measure performance against them, and fix the process when tickets pile up or users stop reporting problems.

A typical day. They review ticket queues and aging reports, run a service review with support leads and business customers, and chase the root cause of a recurring outage. They also negotiate priorities when several departments claim the same urgent issue.

What it takes. Most service delivery managers come from support, infrastructure operations, or IT project management. Postings often ask for a bachelor's degree or equivalent experience; an ITIL certification is common in the field and sometimes preferred, though experience usually counts for more.

Too weird to skip

Four roles that fit nowhere else on the card, and are not less real for it.

Esports Technical Producer

What it is. An esports technical producer runs the technical side of a live tournament: the stage displays, the player machines, the audio, and the network carrying the match to an audience. The role sits between event production and IT, and it exists because one dead machine stops a match that thousands of people are watching.

A typical day. The day starts before the doors open, testing every competition station to confirm it boots the right game build and that peripherals respond. During matches the producer watches several feeds at once, coordinates the observer and caster desks, and clears a dropped connection or a dead microphone without stopping play. The rig is torn down afterward and the fault list written.

What it takes. Backgrounds vary more than in most technical roles: live event production, IT support, broadcast operations, or years of running community tournaments. Postings usually ask for experience with competition hardware and an event portfolio rather than a specific degree.

Broadcast Streaming Engineer

What it is. A broadcast streaming engineer moves live video from a camera or control room to viewers without stalls, dropouts, or broken audio. The work covers encoding, packaging, and delivery, plus the monitoring that catches a failure before the audience does.

A typical day. The engineer configures encoders and bitrate ladders, tests the backup path, and watches dashboards for buffering or error rates while a feed is live. Between events, logs are reviewed, failover settings updated, and whatever broke is written down for the next person.

What it takes. Many enter through broadcast operations, IT networking, or media engineering, and some employers accept equivalent experience in place of a degree. Broadcast engineering credentials and vendor certifications are common but rarely mandatory.

Digital Accessibility Specialist

What it is. A digital accessibility specialist checks that sites and applications work for people using screen readers, magnification, keyboard-only navigation, or voice control, then helps teams repair what fails. The work combines testing with persuasion, because the repairs usually land in someone else's code.

A typical day. Pages run through automated scanners first, then get tested by hand with assistive technology to catch what the scanners miss. Findings are written with reproduction steps, designs are reviewed before release, and developers are coached on markup and focus behavior.

What it takes. Routes in include front-end development, quality assurance, user research, or content work, and many specialists learn on the job. Certifications such as CPACC or the Web Accessibility Specialist credential are common but not required.

Building Automation Technician

What it is. A building automation technician installs, programs, and repairs the control systems that run heating, cooling, lighting, and ventilation in large buildings. Those systems tie sensors and equipment into a network so a building holds its temperature, saves energy, and reports faults. The job straddles the electrical trades and networking.

A typical day. A technician traces a control circuit holding one floor too warm, replaces a sensor, and adjusts setpoints in the automation software. New equipment gets commissioned alongside mechanical contractors, then

documented point by point so the next technician can read the system.

What it takes. Most enter through the electrical or HVAC trades, sometimes with an associate degree in building automation. Vendor certifications are common and often employer-sponsored, and some employers accept trade experience in place of formal schooling.

One thing this page cannot tell you

Which of these you would actually like. That part takes trying things, which costs less than it sounds: a free tutorial, an old machine, a weekend building a game that does not work yet. The not working is the useful part.

If one entry made you curious, that is the whole point of the card. Follow it.

Questions, or want to see what else is here? Email **hi@infrastructuresquad.com**.

Want the short version on paper? **Print the card (PDF, 5.5 x 8.5 in)**

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