Career Center

Resources for Exploring Careers
in Technology

Technology touches every industry, and jobs in tech are equally as diverse. Many careers don't require hard coding skills. For positions that focus on coding skills, many companies prefer to see that you can learn new technical skills and languages quickly over specific coding skill sets, owing to the dynamic nature of the field. This video offers additional career advice for web development, specifically, https://youtu.be/JilfXmI2IjQ.

When searching, be sure to seek out opportunities beyond the large companies that everyone has heard of (Google, Facebook, etc.). Consider companies that offer tech solutions to your particular field (Autodesk for engineers, Papers for scientists, open source/open access software). If you are interested in gaining experience in multiple sides of tech businesses, consider applying for leadership and rotational programs, https://www.careereducation.columbia.edu/resources/leadership-development-rotational-programs.

Explore the Variety of Career Paths with These Example Fields & Roles

Look up these titles or fields on http://www.indeed.com or LinkedIn to learn more about what projects they work on and what skills are needed. This information is also useful when writing your application documents and preparing for interviews.

Development/Programming

Role functions

Design
- Generate web pages and apps from mockups
- Create and optimize graphics and logos for web

Front-End Web Development
- Write and manage user-facing code and architecture
- Utilize HTML, CSS, and JavaScript
- Familiarity with frameworks and libraries

Back-End Development
- Build and maintain technologies behind web pages and apps
- Knowledge of server, application, and database
- Create clean, well-documented code

Full Stack
- Combination of front-end and back-end skills (all levels of a product)

Software/Application
- Plan, design, and implement software systems or applications to desired specifications
- Utilize a variety of programming and analytic tools that suit the needs of the organization and the users

Sample job titles
- Front-End Designer
- Front-End Engineer
- Front End Web Devloper
- Web Application Developer
- Full Stack Developer
- Application Developer
- Mobile Developer
- Software Engineer

Research & Development (R&D)

Role functions
- Implement innovative solutions to technology problems
- Design and develop products

Sample job titles
- Computer Vision Researcher
- Research Scientist
- Systems Engineer
- Network Engineer

STUDENT AFFAIRS
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Quality Assurance (QA)/Test Engineer

Role functions

- Tests technology for functionality before release to customers

Sample job titles

- Quality Analyst
- QA Analyst

Sales Engineer

Role functions

- Match customer's technical requirements with current technology solutions
- Serve as technical resource for sales division
- Create proposals and bids for customers

Sample job titles

- Field Application Engineer
- Product Applications Engineer

Solutions Architect

Role functions

- Design complicated project for client

Sample job titles

- Product Model Architect

User Experience (UX)

Role functions

- Analyze user and business needs
- Devise solutions through engineering, visual design, and psychology

Sample job titles

- UX Architect
- Interaction Designer
- Accessibility Specialist
- User Researcher

Trainer

Role functions

- Create curricula and teaching materials for training
- Design videos, online modules, or in-person workshops

Sample job titles

- Workshop Facilitator
- Technical Trainer

Data & Databases

Role functions

- Design and build systems for collecting, processing, and storing data
- Examine large data sets to better inform decision-making

Sample job titles

- Data Architect
- Data Scientist
- Database Administrator

IT Analyst

Role functions

- Analyze source code and systems
- Create reports on technical subjects for non-technical audiences

Sample job titles

- Technology Analyst

Business Analyst

Role functions

- Research how companies can best use technology
- Implement and evaluate solutions

Sample job titles

- Business Intelligence Analyst

Project Manager

Role functions

- Coordinate and run technology projects

Sample job titles

- Project Lead
- Project Engineer

Product Manager

Role functions

- Manages lifecycle of a product from creation through development, marketing, launch, and maintenance
- Collaborate across multiple divisions of an organization

Sample job titles

- Technical Product Owner

Marketing & Communications

Role functions

- Utilize search engine optimization (SEO)
- Understand client's marketing objectives
- Develop content
- Create strategic, internal communications plans to engage employees

Sample job titles

- SEO Consultant

Technical Support

Role functions

- Empathize with client
- Recommend product solutions
- Troubleshoot

Sample job titles

- Tech Support Specialist
- Customer Support Scientist

Cybersecurity/Cyber Forensics

Role functions

- Identify vulnerabilities of and attacks on cryptographic systems
- Develop countermeasures
- Conduct security evaluations

Sample job titles

- Software Vulnerability Researcher
- Cyber Intelligence Analyst
- Digital Forensics Analyst

Compare Different Tech Organizations

* = in the Raleigh-Durham area; # = history of sponsoring visas from myvisajobs.com
Search LinkedIn or Google Finance for these employers, and look for the section on related companies to help you identify others.

Hardware & Software

- ARM
- QualComm*#
- Oracle*#

Data Management/Cloud

- NetApp*#
- OSIsoft#
- Amazon#

Government

- EPA*
- State of NC*
- Sandia National Labs

Biotech/Pharma

- DE Shaw & Co#
- Disys*#
- Regeneron#

Finance

- WebFinance#
- Voleon Capital Management#
- EquityZen
- Q2ebanking

Networking

- Juniper Networks#
- MITRE
- Harris Corporation#

Science, Math & Engineering

- MathWorks#
- Helix
- General Dynamics

Law

- DisputeSoft
- Appfolio#
- Abacus Data Systems

Consulting

- Rang Technologies#
- Eliassen Group#
- NetCloudTek
- Deloitte#

Telecommunications

- Bandwidth.com#
- Tarana Wireless#
- Keysight Technologies#

Marketing

- BrightEdge#
- eBay#
- Adapt Partners*

Tourism/Hospitality

- Tourico Holidays#
- Orbitz#
- Southwest Airlines#

Health/Insurance

- ArchieMD#
- Relias*
- Children's National Medical Center#

Information Security

- Ixia#
- BAE Systems#
- MOJA

Business & IT Services

- NTT Data*#
- Novetta
- CloudBees*

Media

- Time, Inc.#
- SportsMEDIA*
- Facebook#

Read Additional Tech and Career Resources

Read the experience of a PhD who completed a postdoc at IBM
http://tinyurl.com/y8brhxo8
Consider this advice for how to network to obtain a job in tech
http://tinyurl.com/y8bszm53
Learn about the skills required and employment trends for these positions at
https://www.onetonline.org
Technology and Software Development: panel discussion and professionals' career stories on Versatile PhD
https://gradschool.duke.edu/professional-development/access-versatile-phd
Follow these Twitter accounts
@TechCareers, @FirstTechCareers, @WITWomen, @uxdesignjobs, @bdconf, @DesignerDepot

Meet Tech Professionals to Talk About Opportunities and Their Careers

Attend conferences such as Mobile Growth Summit, DeveloperWeek, and Code Media
Association of IT Professionals, https://www.aitp.org
User Experience Professionals Association, https://uxpa.org
Meet local professionals for social gatherings and networking through Meetup, https://www.meetup.com
Contact Duke alumni and other professionals in tech for informational interviews

- Duke Alumni Association

- Alumni on LinkedIn

- LinkedIn Groups: Software & Technology; Information Technology; User Experience

Build These Specific Skill Sets and Highlight Them When Applying

We summarized skills mentioned in job postings and LinkedIn profiles of tech professionals. Particular jobs may not require all of these skill sets, so find out from online resources and professionals you meet which of these skills sets are most relevant.

Teamwork

- Partner with cross-functional teams from different parts of the business

Communication

- Translate needs of partners and users to specific goals
- Explain technical challenges to non-technical managers and clients

Specialization

- Subject matter expertise in field or techniques
- Use of specific coding languages, algorithms, databases, etc.

Clients

- Manage client relationships
- Build rapport

Work ethic

- Discipline
- Tenacity
- Determination
- Get-it-done mentality
- Adaptability
- Learn quickly
- Work in a fast-paced environment

Analysis

- Transform large amounts of data into meaningful conclusions
- Creative problem solving

Gain Experience

You can gain experience in many ways that involve different amounts of time investment.
Take courses on Lynda.com through Duke
>   https://oit.duke.edu/what-we-do/applications/lyndacom

Subscribe to the Alertbox Newsletter or UIE newsletter to stay up-to-date on UX research and website design

- https://www.nngroup.com/articles/subscribe
- https://www.uie.com

Read news on UX with UXmatters
>   http://www.uxmatters.com

UX resources
>   http://blog.usabilla.com/12-of-the-best-online-ux-resources

Explore articles on this tech career blog
>   https://skillcrush.com/blog

Read tech blogs on industries or careers of interest, such as project management
>   https://project-management.com/category/articles

Read tech blogs on industries or careers of interest, such as product management
>   http://www.mindtheproduct.com

Learn coding skills on LaunchCode
>   https://www.launchcode.org

Learn coding skills on Treehouse
>   https://teamtreehouse.com

Work through problem sets and coding challenges

- https://projecteuler.net
- https://coderbyte.com/challenges
- https://www.hackerrank.com
- https://leetcode.com/problemset/algorithms

Practice coding and technical interviewing
>   https://studentaffairs.duke.edu/blog-entry/coding-interviews-what-you-need-know

Use GitHub to create a portfolio of projects and include the link on your resume
>   https://github.com

Tech Job and Internship Search Tools

Dice, tech-focused job search website
>   http://www.dice.com

CareerConnections, jobs, internships, and events hosted by the Duke Career Center
>   https://studentaffairs.duke.edu/career/online-tools-resources

INET & UCAN Internship Databases
>   https://studentaffairs.duke.edu/career/online-tools-resources