

SOFTWARE ENGINEERING- Career Resource Guide

Sample Career Options

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| Application Programmer | Write programs that tell computers how to perform specific tasks. Develop user-oriented programs that apply to engineering or science. |
| Computer Security Specialist | Protect data and computer resources from viruses, natural disasters, fraud and invasion of privacy. |
| Computer/Software Engineer | Design software including coding, testing, debugging, documentation and implementation. Evaluate existing communications, hardware and software. |
| Consultant | Work independently or in a firm to identify technical problems and provide solutions. Conduct testing and feasibility studies. |
| Design Engineer | Design software and hardware for specific business or engineering applications. Construct and test prototypes and models. |
| Process Engineer | Oversee the process for developing a software product. Work with managers, programmers, distributors and the public. |
| Software Product Manager | Develop business plans, determine if software is compatible with system, and oversee pricing, packaging, shipping and contracts with customers. |
| Systems Analyst | Examine the overall informational needs of the company and design or recommend computer systems and networks to address those needs. May conduct coding, testing, debugging, documentation and implementation of software. |
| Systems Programmer | Design and develop software to create a computer system. Develop programming standards and evaluate and modify existing software. |
| Telecommunication Analyst | Design communication networks. Install and operate data links. |

Related Job Titles

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|------------------------------|-------------------------------|
| Application Programmer | Project Engineer |
| Applications Engineer | Reliability Engineer |
| Computer Engineer | Research and Development |
| Computer Programmer | Sales |
| Computer Security Specialist | Software Design & Development |
| Consultant | Software Engineer |
| Design Engineer | Software Programmer |
| Information Systems Engineer | Systems Analyst |
| Network Engineer | Systems Designer |
| Operations System Manager | Systems Programmer |
| Process Engineer | Technical Writer |
| Product Development Engineer | Telecommunication Analyst |

Career Information Resources

Vault is a comprehensive career resource that includes industry and profession overviews; rankings and profiles for employers and internship programs; a job and internship database; career articles, blogs and videos; sample resumes, cover letters and interview questions; and over 100 career guides. A selection of the Vault Guides is listed below.

Career Launcher:
Computers and Programming
Internet

Vault Guide to...
Computer Software Jobs
Engineering Jobs
Information Technology Jobs
Top Tech Employers

Vault Career Guide to...
Information Technology

Note: Refer to the CPDC website for a link to Vault as well as the CPDC Tip Sheets and ColonialTRAK job postings.

Associations & Societies

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| Association for Computing Machinery (ACM) * | www.acm.org |
| Association for the Advancement of Artificial Intelligence (AAAI) * | www.aaai.org |
| Association for Women in Computing ** | www.awc-hq.org |
| Computing Research Association * | www.cra.org |
| IEEE Computer Society * | www.computer.org |
| National Society of Black Engineers (NSBE) * | www.nsbe.org |
| National Society of Professional Engineers (NSPE) * | www.nspe.org |
| Society of Hispanic Professional Engineers ** | www.shpe.org |
| Society of Women Engineers ** | www.swe.org |

* Contains employment listings

** Contains employment listings for members

Career & Employment Websites

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|--|--|
| About Job Searching: Technical | www.jobsearchtech.about.com |
| Computerjobs.com | www.computerjobs.com |
| Computerwork.com | www.computerwork.com |
| Dice | www.dice.com |
| EngineeringJobs | www.engineeringjobs.com |
| Graduating Engineer & Computer Careers Online | www.graduatingengineer.com |
| iHireTechnology | www.ihiretechnology.com |
| IT Careers at CareerBuilder.com | www.informationtechnology.careerbuilder.com |
| IT Diversity Careers | www.itdiversitycareers.com |
| Occupational Outlook Handbook- Search Computer Programmers/Software Developers | www.bls.gov/ooh/computer-and-information-technology/computer-programmers.htm |
| Pittsburgh Career Connector (Pittsburgh Technology Council) | www.pghcareerconnector.com |

Note: A helpful list of general job search websites is available on the Internet Tip Sheet at www.rmu.edu/careercenter.

Selected RMU Activities & Organizations

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| Association of Computing Machinery | Society of Women Engineers |
| Community Advisors | Student Government Association |
| National Society of Black Engineers | Student Information Technology Advisory Committee |
| Society for the Advancement of Management | Student Program Board |

Salary Information

| RMU Salary Survey | Mean | Range |
|---|----------|----------------------|
| Engineering (all concentrations) - 2016 | \$56,892 | \$38,000 - \$100,000 |
| Engineering (all concentrations) - 2015 | \$49,813 | \$20,000 - \$ 67,000 |
| Engineering (all concentrations) - 2014 | \$55,031 | \$40,000 - \$ 69,000 |

Bachelor-Level Internship Organizations

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| Bayer Corporation | PHW Inc. |
| Bombardier Transportation | PLS Logistics Services |
| Centria | Robert Morris University IT Department |
| DDI | Rockwell Software |
| Genco | RoPro Design |
| Iron Bridge Integration, Inc. | Tate-Jones, Inc. |
| Lucas Systems | United States Steel Corporation |
| Modern Glass | Westinghouse Electric |
| NASA/LARSS | Wilcox Bros. |

Bachelor-Level Hiring Organizations

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| Boeing Industries – Quality Engineer | NASA – Software Developer |
| Chromalox – Application Engineer | NetApp – Application Developer |
| Decision Resources Inc. – Software Developer | PNC – Technology Development Program |
| FedEx – Programmer | PNC Bank – Software Engineer I |
| Honeywell – Software Developer | Ryder Transportation – Application Developer |
| Iron Bridge – Software Engineer | Schroeder Industries, LLC – Application Developer |
| ISM Services, Inc. – Software Developer | Selective Insurance – Application Developer |
| Michael Baker Corporation – Programmer | United States Steel Corporation – Programmer |