# CMPSC 480

Software Innovation 1

## Job ads

#### Associate Software Engineer

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Job ID: R86184

**Updated date:** 10/18/2019 **Location:** Richmond, Virginia

West Creek 4 (12074), United States of America, Richmond, Virginia

At Capital One, we're building a leading information-based technology company. Still founder-led by Chairman and Chief Executive Officer Richard Fairbank, Capital One is on a mission to help our customers succeed by bringing ingenuity, simplicity, and humanity to banking. We measure our efforts by the success our customers enjoy and the advocacy they exhibit. We are succeeding because they are succeeding.

Guided by our shared values, we thrive in an environment where collaboration and openness are valued. We believe that innovation is powered by perspective and that teamwork and respect for each other lead to superior results. We elevate each other and obsess about doing the right thing. Our associates serve with humility and a deep respect for their responsibility in helping our customers achieve their goals and realize their dreams. Together, we are on a quest to change banking for good.

Associate Software Engineer

Capital One's Monitoring Intelligence Team is hiring and we're looking for talented full stack software engineers with a passion for object-oriented programming, cloud and micro service architecture, and a zeal for learning to join the team!

Our Software Engineers for this teamwork in a "You Build, You Own" full stack environment supporting an exciting and innovative tech stack composed of: Java, Golang, REST APIs, NoSQL database, Kubernetes, Terraform, Jenkins, Docker, and AWS cloud.

For this role, we are looking for a Full Stack Software Engineer with an interest in learning those technologies and diving right into the development with our engineering team.

This position will support the SRE team for Log Ingestion across our two log ingestion toolsets. Team members utilize Agile Delivery practices and will be responsible for assisting internal customers in support of end-to-end delivery of micro-services (feature grooming, design, development, testing, and implementation).

#### **KEYTAKE-AWAYS:**

- Experience with collaborative projects is essential.
- Mission-focused applicants stand a good chance of not only interviewing, but being successful at the company.
- "Full stack" indicates that applicants have to be conversant with not just technologies, but methods, too (as seen later).
- Applicants should have skills at least *some* of a defined set of technologies.
- The ad gives some information on the specific nature of the work (SRE - "Site Reliability Engineering")
- Applicant should be able to provide examples
   of projects which engage in CI/CD processes
   and can demonstrate all levels of problem solving, development, bug-tracking, bug fixing, and exhibit a sense of responsibility
   for the code they write.

#### In this Full Stack role you will:

- Troubleshoot code and configurations for customers (in Java, JavaScript, Python and Golang to name a few)
- Support a "You build you own" environment in production support and on-call rotation activities
- Collaborate (partnering well with a diverse and passionate team)
- Learn (adapting quickly to an evolving market and emerging trends)
- Work with product owners to understand desired application capabilities and testing scenarios
- Continuously improve software engineering practices
- Work within and across Agile teams to design, develop, test, implement, and support technical solutions across a full stack of development tools and technologies
- Bring a passion to stay on top of tech trends, experiment with and learn new technologies, participate in internal & external technology communities, and mentor other members of the engineering community
- Encourage innovation, implementation of emerging technologies, inclusion, outside-of-the-box thinking, teamwork, self-organization, and diversity

### Very basic skillset

Some combination of these are really what they're looking for

#### **Basic Qualifications:**

- Bachelor's Degree
- At least 3 years of experience in Java or object-oriented programming
- At least 2 years of experience with Spring Framework
- At least 2 years of experience in Agile practices

#### Preferred Qualifications:

- 1+ year of experience in an AWS cloud environment
- 1+ year of experience with DevOps tools such as Jenkins, Maven, or Artifactory
- 2+ years of experience with Unix or Shell scripting.
- 1+ year of experience with Splunk and/or Elasticsearch (ELK Stack)
- 1+ years of experience in architecture and system design.
- 1+ years of experience in Golang

- Become familiar with the terms:
  - "Full stack"
  - "DevOps"
  - "DevSecOps"
  - "CI/CD"
- Be aware of how practices are migrating toward the "cloud" using:
  - AWS
  - Kubernetes
  - Docker
  - Jenkins/Travis CI/CD platforms

## Activity (professional positions)

- Spread out the listings you brought to class.
- · Attempt to "decode" the job listings you brought to class These will dictate how you can

paying attention to:

- What positions have in common •
- How they differ
- Skills that you have
- Skills that you anticipate needing to learn or research more about

tailor large portions of your

every time

professional documents so that you

don't have to change everything,

- Determining whether the position is truly a fit for you at this point in time.
- (If you have time) Read appropriate portions of the Allegheny professional documents guide for cover letters.
  - Choose one position that you'd like to apply to and outline a potential letter.

### Graduate Schools

#### **ADDMISSIONS Requirements**

You must submit the following with your application.

Plan to take this; but do not take it without studying. (Seriously.)

- Graduate Record Examination (GRE) scores.
- If your native language is not English, then you must submit a TOEFL. A successful applicant will normally have a total iBT score of at least 100.
- A PDF of your most recent transcript from each college and/or university you attended, even if no degree was granted. 

  These often cost \$\$ and take time.
- Your resume in PDF format. At this point, tailor for academics.
- Your Statement of Purpose a concise one- or two-page essay describing your primary research interests, related experiences and objective in pursuing a Masters in computer science.
- Three letters of recommendation, at least two of which are from faculty or recent employers.

Possibly one of the most important parts

For more on the application process, please refer to the SCS Online Graduate Application Instructions.

For general questions about applying to master's degree programs in the School of Computer Science email: applygrad@cs.cmu.edu Also a *very important* part.

- Keep deadlines in mind. For the example, CMU has a few:
  - Early application (usually a reduced fee at most schools): December 2, 2019
  - Final application: December 12, 2019
  - GREs and other exams can't be later than November 22, 2019
- There are usually fees.
  - CMU is \$75 (early application)
  - \$125 regular
  - Sometimes these can be further reduced, waived, or come from other support sources.
- Your application must be complete. Very rarely (if ever) will schools extend deadlines or accept materials late.

# Activity (academic)

- Begin to outline:
  - Reasons that you believe particular programs to be a good fit. This can revolve around:
    - Faculty reputation
    - Faculty research interest
    - Institutional location/affiliation
    - Institutional reputation
  - A timeline of actions you need to take to apply to a given program
  - (If you have time) Read Yale's guide to writing personal statements. How might you begin to outline yours?