

# Nicholas Flanders

SOFTWARE ENGINEER

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## Education

### Northeastern University

Boston, MA

COLLEGE OF COMPUTER AND INFORMATION SCIENCE

2014 - present

- Candidate for a Bachelor of Science in Computer Science, December 2018 · Mathematics Minor
- GPA: 3.99/4 · Dean's List all semesters · Honors Program · Computer Science Teaching Assistant
- *Relevant coursework:* Object-Oriented Design · Algorithms and Data · Database Design · Software Development · Programming Languages · Computer Systems · Theory of Computation · Programming in C++ · Logic and Computation · Calculus 3 · Linear Algebra · Probability and Statistics *In Progress:* Distributed Systems · Compilers · Cryptography

## Experience

### Two Sigma

New York, NY

SOFTWARE ENGINEERING INTERN

May - August 2018

- Designed and implemented an HTTP service to expose the abstract syntax tree of a compiled insurance product using Scala with Akka
- Developed a plugin for IntelliJ IDEA to consume the service and provide a drastically streamlined product engineering workflow
- Extended an insurance product compiler to enable the linking of AST nodes and output files to the source files that affected them

### Apple

Sunnyvale, CA

Cupertino, CA

SOFTWARE ENGINEERING INTERN

May - August 2017

January - May 2018

- Developed features for iCloud Edge: a high-scale Netty-based proxy in points-of-presence around the world
- Designed, developed, and deployed a framework for caching high-traffic public database responses at the edge servers for first-party applications such as Stocks and News
- Designed and prototyped a secure TLS termination architecture using Intel SGX enclaves
- Developed disaster recovery libraries to safely isolate hosts with disk failures and correctly route internal iCloud requests
- Developed and executed performance tests for newly-developed transport layer network protocols

### Google

Kirkland, WA

SOFTWARE ENGINEERING INTERN

January - April 2017

- Developed a migration and verification tool to transition advertisers to a new DoubleClick Search platform while ensuring no regressions were introduced during the migration
- Implemented a semantic translation tool to convert abstract syntax trees of a dynamically-typed ad templating language to abstract syntax trees of a statically-typed language

### Apple

Sunnyvale, CA

SOFTWARE ENGINEERING INTERN

January - August 2016

- Developed back-end web services for a data aggregation and visualization platform for the Apple Maps Eval team
- Created robust, fault-tolerant microservices using Java, Scala, and Python with the QBit, Play, and Flask frameworks
- Developed internal Python libraries and microservices as part of a custom CI/CD pipeline

### Albany Engineered Composites

Rochester, NH

SOFTWARE ENGINEERING INTERN

June - August 2015

- Developed, deployed, and maintained an automated test framework and build server in Python and Perl with a GUI for management

## Skills

<b>Languages</b>	Java, Scala, Python, Derivatives of Lisp/Scheme, C++	<i>Familiar with:</i> Swift, Go, C, HTML, CSS, JavaScript
<b>Software Engineering</b>	Object-oriented design, functional programming, concurrency, compilers, programming languages, web services	
<b>Web Frameworks</b>	Akka, Netty, Flask, Play, QBit	
<b>Databases &amp; Storage</b>	Redis, AWS S3, PostgreSQL, MySQL, MongoDB	
<b>Development</b>	Git, Docker, Gradle, Maven, SBT, Unix terminal, Windows Command Prompt, Travis CI, Jenkins	

REFERENCES AVAILABLE UPON REQUEST