Nicholas Zuber

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EDUCATION

University of Massachusetts Lowell — *Spring 2018*

Bachelor of Science in Computer Science, Minor in Mathematics — *Major GPA: 3.56*

Relevant Courses:	Machine Learning, Compiler Theory, Operating Systems, Statistics
Honors:	Deans List, UMass Amherst Book Award for Computer Science
Hackathons:	HackHarvard, CODEX MIT Media Lab, Hackbeanpot, Hawkathon

EXPERIENCE

Robin — Boston, MA

Software Engineer — *June 2018 – Present*

- Architect and develop the internal data visualization library used across every team in the company
- Refactor and modernize existing projects used by 1,000+ customers to pave the way for new features, faster development, and more reliable maintenance
- Assist in designing and implementing new suggestion based features for 25,000+ users to increase and maximize productivity and useability

Box — Redwood City, CA

Software Engineering Intern — *June 2017 – Aug. 2017*

- Helped maintain and develop features for ClusterRunner, a tool which optimizes test suites for over 100,000 tests internally, is used 1,000+ times each day, and speeds up test feedback by 300x
- Implemented a caching layer for testing results and build artifacts, using SQLite and an ORM for added flexibility in database integrations
- Refactored REST API to be able to support breaking changes and preserve backwards compatibility

Robin — Boston, MA

Software Engineering Intern — *May 2016 – Aug. 2016*

- Rapidly iterated and helped develop mobile apps for both Android and iOS used by 1,000+ users/day
- Utilized knowledge of string distance algorithm to build custom an approximate string matching library to enhance user experiences within our search fields
- Applied functional paradigms to create testable & deterministic code that was frequently shipped

OPEN SOURCE PROJECTS

Infrared *(type system)* — *July 2018 – Present*

- Designing a fluid type system for JavaScript that optimistically finds potential type errors and type inconsistencies completely through inference and advanced type reduction
- Capitalizing on practical heuristics to better predict developers' intent and correct common mistakes
- Creating novel algorithms and data structures to solve interesting efficiency related problems using graph theory

Kelp *(compiler)* — *Jan. 2018 – May 2018*

- Engineered a compiler from scratch using OCaml to transform a JavaScript-like language, with features like functions and closures, to optimized x86-64 assembly code
- Developed an efficient and conservative register allocation strategy using graph coloring and saturation algorithms to increase execution speed by minimizing stack allocations
- Wrote an automated garbage collection runtime in C to support dynamic heap allocation

SKILLS

Programming Languages & Frameworks

Proficient in:	JavaScript, OCaml, Python, React, React Native
Experienced with:	C, Racket, SQL, PHP, Java, C++