



# Jake Vossen

B.S. + M.S. COMPUTER SCIENCE

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## Education

### Colorado School of Mines

Golden, CO

M.S. COMPUTER SCIENCE

January 2021 - December 2022

Completed a project in the area of programming languages, compilers, and program synthesis

- Completed Courses: Advanced Computer Architecture, Theory of Computation, Advanced Machine Learning, Theory of Cryptography
- Enrolled Courses: Advanced High Performance Computing
- Work has been accepted to PACT and the PLDI E-graphs series

B.S. COMPUTER SCIENCE

August 2018 - December 2021

- Major GPA: 3.92 || Overall GPA: 3.621
- 2020 (Transamerica) & 2019 (BP) C-MAPP Scholar: An award to recognize top CS students who are active and involved within the CS department
- Notable Courses: Algorithms, Data Structures (C++), Compiler Design (Rust), Advanced Compilers, Programming Languages (OCaml), Operating Systems (C), Computer Networks

## Experience

### Apple

Boulder, CO

3D UI FRAMEWORKS ENGINEER (*accepted position for post-graduation*)

January 2023

- Creating UI Frameworks for Engineers to build 3D applications on Apple platforms (starting upon graduation)

### Amazon

Boulder, CO

SOFTWARE DEVELOPMENT ENGINEER INTERN

Summer 2022

- Full stack (Kotlin, Java, and React) - creating and implementing API endpoints to improve the Amazon Marketing Cloud product
- Used AWS Lambda, Step Functions, CloudFormation, DynamoDB, S3, and other AWS services to build serverless, scalable solutions
- Used the Infrastructure as Code (IaC) model to create and manage AWS resources

### Texas Instruments

Remote

COMPILER ENGINEERING INTERN

Summer 2021

- Added to and improved the functionality of TI's Clang/LLVM based compiler infrastructure for ARM based embedded systems, specifically around interrupt handling

### Nextworld

Denver, CO

ASSOCIATE SOFTWARE ENGINEER INTERN

Summer 2018, 2019, 2020

Three summers of full time software development with backend Java and frontend Angular. My code was deployed bi-weekly, reviewed by stakeholders, and delivered to customers.

- Summer 2020: Reporting Team: Full stack - Improved Java REST APIs and implemented the improvements as features in the client
- Summer 2019: Client Team: Added features, fixed bugs, and made significant improvements to the Nextworld platform and Nativescript mobile app
- Summer 2018: Integrations Team: Used C# with REST APIs to connect Nextworld data to external services

### Colorado School of Mines

Golden, CO

RESEARCH ASSISTANT (FALL 2020 - CURRENT)

- Studying programming languages, synthesis and optimization (Rust)
- Working towards Masters project relating to novel applications of E-graphs in repair and superoptimization
- Worked on papers accepted to PACT and the PLDI EGRAPHS series

LINUX SYSTEM ADMINISTRATOR (SUMMER 2020 - CURRENT)

- Performed maintenance, upkeep, and upgrades on 6 Ubuntu servers containing around 12 CS@Mines projects
- Provided and managed package mirrors for Arch Linux and Ubuntu
- Interviewed, selected, and trained replacement in coordination with the department head

LEAD U-CLIMB MENTOR / TA FOR INTRO TO COMPUTER SCIENCE (SPRING 2020 - SUMMER 2020)

- Managed U-CLIMB mentors, scheduling, task distribution, and creating / presenting training material for TAs to teach introductory computer science material to 400 students
- Performed interviews and made hiring decisions for future mentors

U-CLIMB MENTOR / TA FOR INTRO TO COMPUTER SCIENCE (FALL 2019)

## Skills

- **Programming Languages**
  - **Advanced:** Python, Java, Rust
  - **Intermediate:** C++, SQL, TypeScript, Kotlin
  - **Beginner:** Haskell, Swift, OCaml
- **Development Tools**
  - AWS Tools: Experience with AWS S3, CloudFormation, Lambda, EC2, API Gateway, Step Functions
  - Linux Server Deployment: Docker, Apache, Nginx, Postgres
  - Other Tools: Git, GitHub, Bash,  $\LaTeX$ , GNU Make
- **Fun Facts:** Swing Dancer, 15 unique Colorado “14er” summits, Eagle Scout, and I enjoy reading!