Ari Abed

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EDUCATION

University of Waterloo — Expected Apr 2025
Majoring in Computer Science with Minor in Physics   Cumulative GPA: 3.9/4.0
Awards: President's Research Award, President's Scholarship of Distinction
Coursework: Functional Programming, Compilers, Data Structures, Algorithms, Operating Systems

EXPERIENCES

Super.com
Software Engineer - Intern — May 2023 - Aug 2023
- Developing and maintaining internal tools in Python used by 250+ employees

University of Waterloo
Research Assistant - Prof. Mashtizadeh — Jan 2023 - Apr 2023
- Worked with Huawei and Netflix on a code optimization tool, increasing performance on benchmarks by up to 10%
- Proposed and built a feature to analyze CPU instructions and gather cache utilization metrics using Ghidra and Java

Research Assistant - Prof. Hachisuka — Sep 2022 - Dec 2022
- Optimized a fluid simulation algorithm, written in C++ and Julia, that utilized Monte Carlo integration
- Analyzed numerical algorithms for solving stochastic differential equations

Capital One
Software Engineer - Intern — Sep 2022 - Dec 2022
- Constructed an AWS Lambda function to automate API deployments, reducing deployment times by 300%
- Spearheaded the creation of a Python CLI tool, capable of parsing YAML configuration files with 200+ parameters
- Advocated for a better internal documentation system and developed a proof of concept using Docusaurus

Software Engineer - Intern — Jan 2022 - Apr 2022
- Led the development of a data consolidation dashboard made with React and Python, used by 20+ teams
- Owned development of APIs using boto3 SDK, capable of a data propagation time of <500ms between databases

OpenText
Software Developer - Intern — May 2021 - Aug 2021
- Configured Docker and Kubernetes to achieve 0 downtime for a web-based internal tool used by 1,000+ employees
- Programmed a control-flow visualization feature using JavaScript and PrimeFaces, reducing user look-up times by 50%

PROJECTS & ACTIVITIES

UW Blueprint
- Worked with a team of designers to create a web portal for a non-profit organization using React
- Set up a MongoDB database that used GraphQL API configured through a Python Flask back-end

stats_cpp
- Developed an agile and open-source header-only C++17 statistics library using CMake
- Used various numerical computation algorithms to calculate statistics for 10,000+ data points in under 5 seconds

SKILLS

- **Languages**: Python, C/C++, JavaScript, TypeScript, Java, Kotlin, LaTeX, Julia, C#, Rust, SQL
- **Technologies:** React, NextJs, Node.js, Express, Electron, SocketIO, Flask, REST, GraphQL, Android, LLVM
- **Tools:** Git, AWS, Ghidra, GCP, Firebase, Docker, Kubernetes, Jenkins