Ari Abed

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EDUCATION

University of Waterloo   Sept '20 – Apr '25
Bachelor of Computer Science, Physics Minor   GPA: 3.9
Awards: President's Research Award, President's Scholarship of Distinction
Courses: Data Structures, Algorithms, Operating Systems, Real-Time Programming, Numerical Computation

SKILLS

- **Languages**: Python, TypeScript, JavaScript C/C++, SQL, Java, OCaml, LaTeX
- **Technologies:** React, Next.js, Node.js, Express, Electron, SocketIO, Flask, REST, GraphQL
- **Tools:** Git, AWS, PostgreSQL, GCP, Firebase, Ghidra, Docker, Kubernetes, Numpy, Pandas, React-Query

EXPERIENCES

Front-End Engineer Intern – Access Control   San Mateo, CA
Verkada   May '24 - Aug '24
- Migrated from legacy APIs to Elasticsearch using React-Query, decreasing page load times for 2.5 million users by 40%
- Introduced optimistic cache updates for all mutation API calls, eliminating up to 3 seconds of latency in updates
- Collaborated with UI designers to develop mobile-friendly views of the React web tool used by 7900 organizations
- Led the team in a company-wide initiative to deprecate a critical vulnerable service called 3.5 million times a day, enhancing security for all users

Full-Stack Engineer Intern – Credit   Campbell, CA
Aven Financial   Jan '24 - April '24
- Built a mortgage refinance flow using Vue.js and TypeScript, generating an average of $1,800 in revenue per application
- Created a vectorized mortgage pricing engine in Python using Pandas capable of pricing 100 applications in <600ms
- Architected a mortgage brokering product in TypeScript and PostgreSQL with integration with third party lenders
- Contributed to the shared UI library used by all developers, reducing duplicate code and lowering technical debt

Software Engineer Intern – Internal Tools   Remote
Super.com   May '23 - Aug '23
- Applied concurrency techniques to Python code and reduced Redis update times from 15 minutes down to 2 minutes
- Added a temporary ID system for hotels by hooking React to Redis, allowing agents to respond to 100 more calls per day
- Revamped the on call system relied on by 100+ engineers during critical incidents by using Python and Slack API

Undergraduate Research Assistant – Prof. Mashtizadeh   Waterloo, ON
University of Waterloo   Jan '23 - April '23
- Worked on a dynamic code optimization tool built in C, 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

Software Engineer Intern – DevOps   Remote
Capital One   Jan '22 - April '22
- Owned the development of APIs using Python, capable of a data propagation time of <500ms between databases
- Constructed a Python AWS Lambda function to automate API deployments, reducing deployment times by 60%

Software Developer Intern   Remote
OpenText   May '21 - Aug '21
- Programmed a control-flow visualization feature using Java and JavaScript, reducing user look-up times by 50%
- Configured Docker and Kubernetes to achieve 0 downtime for a web-based internal tool used by 1,000+ employees

PROJECTS & ACTIVITIES

TrainOS – An ARM64 Operating System
- Used C and ARM64 assembly to create a kernel capable of multi-processing and IO for use in real-time applications

UW Blueprint – Development for Non-Profit Organizations
- Collaborated with 10 students to create an online food donations dashboard as part of a volunteering project for an NPO