Jacob Kline

jacobk513@gmail.com • (312)-722-2910 • github.com/jekhi5 • linkedin.com/in/jacob-e-kline • thejacobkline.com

Technical Experience

Software Engineering I
SimpliSafe - Boston, MA
<div align="right">Aug. 2025 – Present</div>

- Authored new functionality for and maintained 5 C++ and Go-based services managing communication for hundreds of thousands of wireless cameras
- Developed proprietary C++ libraries used across service infrastructure
- Investigated and improved CI/CD pipelines to maximize efficiency and cryptographic safety

Full Stack Software Engineering Co-op
Wood Mackenzie - Boston, MA
<div align="right">Jul. 2023 – Dec. 2023</div>

- Completed feature work for a Typescript web application with React frontend and GraphQL/ElasticSearch backend
- Researched and designed implementation plan to integrate a nascent user product into a legacy Typescript API
- Wrote and maintained new ElasticSearch & GraphQL schemas and queries that enhanced data interaction efficiency across 15+ datasets
- Collaborated with global software teams, communicating across functions, during implementation which ensured zero downtime for existing products throughout deliverable timeline
- Finalized implementation of new user product within all deadlines enabling company to bring in 4 new partnerships

Software Engineer
Generate Product Development Studio - *Cait's Curaits* - Boston, MA
<div align="right">Jun. 2023 – Dec. 2023</div>

- Designed and implemented a React and Go-based gift-curator application which nearly doubled existing customer base
- Developed a backend system from the ground up for managing user requests and curator suggestions, ensuring data integrity
- Created 3 user roles for effective site moderation which enabled the hiring of new full-time moderation staff

Projects

ViPER Compiler and Programming Language - [Repository]
<div align="right">Jan. 2025 - May 2025</div>

- Designed and implemented an x86_64 compiler for a functional programming language in OCaml with a C runtime
- Implemented features such as first class anon. functions, mutable recursive tuples, exception handling, garbage collection, register allocation, etc.
- Iteratively added new language features beginning with semantic specifications and reasoning about effects on each phase of the compiler pipeline

North Star - [View Live Site] | [Repository] | [Case Study]
<div align="right">Sep. 2024 - Dec. 2024</div>

- Implemented space-themed Q&A MERN stack web app sustaining 150+ users, authenticated via Firebase. Development ongoing
- Streamlined communication among 4 engineers using AGILE model, completed 6 research stories and 12 new features in 5 week deliverable timeline
- Designed and deployed a MongoDB cluster with 7 collections for secure, scalable data storage, leveraging server-side logic
- Streamlined data validation by developing MongoDB middleware functions, automating 5+ recurring database requests
- Maintained an existing CI/CD pipeline, built 1 new pipeline using GitHub Actions, ensuring 0 downtime during schema migrations

SNAPpy - [Repository]
<div align="right">Feb. 2023 – May 2023</div>

- Developed web app for MA SNAP program participants during HackBeanpot hackathon, optimizing for low-bandwidth environments
- Leveraged Django and JavaScript to create user-friendly interfaces, with emphasis on accessible technologies and tech illiteracy
- Built 4 API pipelines in Python to efficiently process grocery store and Google Maps data on the back-end to lessen load on user hardware

Additional Experience

Emergency Medical Technician, Cataldo Ambulance - Boston, MA
<div align="right">Jun. 2023 – present</div>

- Treated 10+ patients per 16-hour shift in emergencies and accurately activated pre-hospital codes (cardiac, stroke, and trauma alerts)
- Maintained clear and concise communication with patients and other first responders in stressful situations, often in multiple languages

Sexual Violence Prevention Educator, Northeastern University - Boston, MA
<div align="right">Sep. 2024 – May 2025</div>

- Led 8+ comprehensive bystander intervention and sexual violence prevention presentations per semester, reaching 350+ freshmen
- Presented 4+ specialized sexual violence prevention programs to Fraternity and Sorority Life organizations per semester, each for 75+ members

Education

NORTHEASTERN UNIVERSITY, Boston, MA
<div align="right">Spring 2025</div>

Khoury College of Computer Sciences
Bachelor's degree in Computer Science, Pre-Med Track
Tools and Programming Languages: *TypeScript, React.js, C++, Go, MongoDB, Firebase, Express.js, Axios, Node.js, OCaml, C, Python, Java, Racket, HTML5, CSS3, MySQL, C#, GraphQL, Django, Git, Vim, Docker, Jenkins, ElasticSearch, AWS, MediaPipe*

Interests and Awards

Spoken Languages: Hebrew (*CEFR: C1*), Arabic (*CEFR: B1*), Mandarin (*CEFR: A2*)
Interests: Open source development, algorithm optimization, chess, language learning, improv & stand-up comedy, reproductive justice
Northeastern University: Recipient of the 2025 Graduating Student Award
Northeastern Hillel: Recipient of the 2025 Sidney Herman Student of the Year Award
HackBeanpot 2023: Winner for 'Most Impactful Project on Boston Community' (SNAPpy)