BENJAMIN PETRILLO

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Availability: May – December 2025

EDUCATION

Northeastern University | Khoury College of Computer Sciences Boston, MA
Candidate for a Bachelor of Science in Computer Science Expected May 2026
Honors: Dean's List
Coursework: Algorithms, Object-Oriented Design, Networks, Distributed Systems, Computer Systems, Logic & Computation

TECHNICAL SKILLS

Languages: Java, TypeScript/JavaScript, Go, Python, C/C++, SQL, Racket
Frameworks: React, React Native, Next.js, Express, ElysiaJS, Spring Boot, Flask, FastAPI, JUnit, Jest
Technologies: Docker, AWS EC2, MySQL, MongoDB, PostgreSQL, Prisma, Supabase, Firebase, Git

EXPERIENCE

Literally Helping Startups Boston, MA
Software Engineer Co-op Sep 2024 – Present
- Spearheaded development of a **full-stack Next.js application** using Tailwind CSS and Redux that streamlined startup discovery for founders and investors using a metric-based system, implementing efficient data-fetching for **5,000+ users**
- Developed a library of **30+ reusable components** based on Figma designs, standardizing UI elements across the platform
- Built **30+ OpenAPI-compliant REST endpoints** with ElysiaJS, enforcing strict type validation and writing a suite of tests

Generate Product Development Boston, MA
Software Engineer Sep 2024 – Present
- Engineered **20+ CRUD endpoints** for authentication, profiles, and venue interactions for a nightlife discovery platform
- Implemented authentication with **JWTs** and refresh tokens, leveraging **Supabase** and **PostgreSQL** for data storage
- Completed weekly scrum sprints with a team of 12 to convert Figma designs into functional React Native components
- Reviewed and gave constructive feedback to peer pull requests, ensuring alignment with agile development practices

Khoury College of Computer Sciences Boston, MA
Teaching Assistant, Object-Oriented Design May 2024 – July 2024
Teaching Assistant, Fundamentals of Computer Science II Jan 2024 – May 2024
- Directed **6 lab sections** with **40-60 students each**, conducting lecture-style sessions to reinforce course concepts on software development best practices, data structures, model-view-controller, observer, and decorator patterns in Java
- Graded exams and **30+ assignments and lab activities** each week, collaborating with professors on grading rubrics
- Held weekly office hours for one-on-one student mentoring on course & lecture content, and led student exam proctoring

PROJECTS

Nightlife | Go, React Native, Supabase, PostgreSQL, Docker Sep 2024 – Present
- Developing a **full-stack React Native mobile app**, allowing users to rate, review, and discover nearby venues and users
- Utilizing Apple and Google Maps data to identify and catalog **150+** Boston-area nightlife venues for internal database
- Spearheading user authentication and venue recommendation algorithms based on user preferences

Personal Portfolio Website | React, TypeScript, HTML/CSS, Sqlite3 Jun 2024 – Present
- Designed a portfolio website using React and **mobile-first stylesheets**, adding JSON configurability of showcased work
- Utilized **Google OAuth 2.0** for comments using async API requests and **HTTP-only cookies** for session management

Fakebook Web Crawler | React, TypeScript, HTML/CSS, Sqlite3 Mar 2024
- Created a web crawler to traverse and find hidden flags from a large-scale mock social networking site using a **queue-based algorithm** for managing visited and unvisited links, optimizing navigation and flag retrieval time
- Optimized crawler performance from **~30 minutes to ~5 minutes** by incorporating **multithreading** for concurrent HTTP requests and constructing an efficient HTML parser using CSS selectors to accurately extract flags from user profiles

Hexagonal Reversi | Java, Swing, JUnit Nov 2023 – Dec 2023
- Utilized **MVC design patterns** to develop a text-based UI and a GUI for Orthello using Swing, integrating **observer patterns** for data encapsulation and strategy patterns for functional AI players, supporting strategy chaining and fallbacks
- Engineered **250+** sanity, unit, and mock tests to ensure code correctness, find edge cases, and validate design choices
- Adjusted to introduction of external codebase using **adapter patterns**, integrating foreign strategies and coordinate systems

Ponjo.Pastes | TypeScript, HTML/CSS, Express.js, MongoDB Apr 2023 – Sep 2023
- Created a code snippet sharing platform leveraging MongoDB with searchability, view counts, and syntax highlighting
- Implemented a responsive user interface with Bootstrap 5 and used EJS for effective server-side rendering of paste data

Interests: Competitive Table Tennis, Latin American Cuisine, Boating, Arch Linux, Funko Pops, Hunter X Hunter