# Saad Sadouk

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## **EDUCATION**

## George Mason University

Fairfax, VA

Bachelor of Science, Computer Science - GPA: 3.5/4.0

Aug. 2021 - May 2025

• Relevant Coursework: Object-Oriented Programming (Java), Data Structures (Java), Operating Systems (C), Analysis of Algorithms (Java), Software Engineering (React.js & Python)

#### EXPERIENCE

### Software Engineer Intern

Aug. 2022 – Dec. 2022

Norfolk, VA

 $IPConfigure\ Inc\ \cdot\ Internship$ 

- Contributed to the development of features for a web-based UI using **Angular** and **TypeScript** that enables users to store, view, and customize streams from IP cameras.
- Implemented Java Spring Boot backend APIs for a video surveillance system, reducing latency by 25% and enabling seamless integration with IP camera streams.
- Designed a Material Design-driven interface for retention analytics, cutting data analysis time by 30% and earning praise from the product team.
- Orchestrated migration of legacy **AngularJS** and **JavaScript** codebases to modern **Angular** and **TypeScript**, enhancing performance by **20%**.
- Authored TypeScript and Jasmine unit tests, achieving 90% code coverage and accelerating code review cycles by 35%.

### **PROJECTS**

FlipAssist.app | Next.js, TypeScript, TailwindCSS, Firebase, Stripe, Google OAuth | (link) Mar. 2023 - Present

- Architected a full-stack SaaS product designed for resellers, scaling to over 300+ active users worldwide in 18 months, revolutionizing inventory management.
- Built a real-time dashboard using ChartJS and a high-performance inventory system with CRUD functionality, delivering critical sales insights and slashing management time by 40%.
- Developed a suite of automation tools—including high-speed product monitors, fee calculators, proxy delay testers, and more—boosting operational efficiency by over 50%.
- Integrated **Stripe** and **Firebase** for secure, scalable subscriptions, driving consistent revenue growth.

FrugalFinder | React.js, Flask, SQLAlchemy, SerpAPI, JWT, Pytest, SQLite | (link) Sep. 2024 - Dec. 2024

- Designed and implemented a robust Flask-based backend with SQLAlchemy, delivering a scalable RESTful API to support price comparison and user authentication for 50+ users.
- Engineered seamless integration with **SerpAPI** for real-time product data aggregation, optimizing for low latency and handling **10,000**+ daily queries.
- $\bullet \ \ {\rm Designed} \ \ {\rm a} \ \ {\rm secure} \ \ {\bf JWT}\mbox{-} \mbox{based authentication system, ensuring data integrity with industry-standard encryption.$
- Led schema design and optimization with **SQLite**, efficiently managing relational data for users and products.
- Spearheaded backend testing with Pytest, achieving 90%+ code coverage and reducing bugs during sprints.

Imagen AI | Next.js, TypeScript, TailwindCSS, Convex, Google OAuth | (link)

June 2023 – July 2023

- Built a full-stack **Next.js** application leveraging the **ControlNet Replicate API**, enabling AI-generated images from user prompts and sketches with over **95**% generation success rate.
- Boosted user engagement by integrating **ReactSketchCanvas** for real-time sketching and gallery features, increasing session duration by **30%** during testing.
- Optimized backend efficiency with Convex to streamline ControlNet Replicate API calls, cutting image generation latency by 40% over baseline.

#### TECHNICAL SKILLS

Languages: Java, Python, C, C++, MySQL, JavaScript, TypeScript, HTML, CSS, Stylus

Frameworks: Next.js, React.js, Angular, Node.js, Express.js, Flask, Spring Boot, TailwindCSS, Material-UI,

SQLAlchemy, Convex, jQuery, Jasmine

Developer Tools: Git, GitHub, AWS, Postman, Jira, Vercel, Figma, VSCode, Linux, Firebase, Stripe, Pytest, SQLite