

Brandon Garate

LinkedIn | Portfolio | GitHub

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Education

San Diego State University — San Diego, CA

August 2023 – May 2027

B.S. in Computer Science · Minor in Mathematics

Relevant Coursework: Data Structures & Algorithms · Operating Systems · Database Systems · Software Engineering · Discrete Mathematics · Linear Algebra

Skills

Languages: Go · Python · SQL · TypeScript · C++ · Springboot

Frameworks: React · Gin · Django · Node.js

DevOps/Tools: Docker · AWS (EC2, RDS) · GCP (Cloud Run, Cloud SQL) · Supabase · GitHub Actions (CI/CD)

Methodologies: Agile · SDLC · RESTful APIs · OPP

Experience

Research Assistant, RTEC Lab, SDSU — San Diego, CA

Sep 2025 – Present

Implemented secure IoT communication and power-efficiency frameworks, bridging embedded devices with AWS cloud services to enhance scalability and resilience in cyber-physical systems

- Engineered embedded software for LTE-based IoT module, achieving **95%** + connection stability across **200+ field sessions** while emphasizing security best practices
- Designed an **AWS** integration pipeline handling **10K+ secure messages/day** from distributed IoT nodes.
- Optimized device power consumption by **30%**, extending uptime through improvements at the firmware level efficiency.

Software Engineer, CoTeX.md — San Diego, CA

Jul 2025 – Present

Developed a Markdown editor for developers using React and Node.js, focusing on building and launching new features with modern front-end technologies.

- Launched desktop app adopted by **1000+ developers**, mirroring **250+ GitHub repos** with live sync.
- Scaled a Go + Supabase backend to handle **5K+ GitHub events/month**, integrating **Stripe billing** and secure JWT authentication.
- Selected into SDSU's **ZIP Launchpad Incubator** as one of **20 startups**, receiving mentorship and resources to transition from prototype to market-ready product.

Software Engineering Intern, BarBuddy LLC — San Diego, CA

Feb 2025 – Jul 2025

Early engineering intern at nightlife discovery startup, delivering real-time crowd and wait-time tracking for **500+ users**.

- Architected and shipped a **Django + PostgreSQL backend** handling bar listings, live events, and session data at scale.
- Increased reliability of status reports by **35%** through a weighted voting system prioritizing trusted users.
- Deployed on **Google Cloud Run + Cloud SQL** with Firebase Auth, enabling secure, horizontally scalable infrastructure.

Projects

Tensile Properties Prediction | Notebook

scikit-learn, XGBoost, MLP

Trained ML models to predict **tensile (Su)** and **yield (Sy)** strength from material parameters, reaching **$R^2 = 0.87$** .

- Benchmarked **Random Forest, XGBoost, and MLP**, identifying top features driving mechanical properties.

CodeCast | GitHub

Go (Gin), PostgreSQL

VS Code extension + backend allowing instructors to “push” code in real time and students to “fetch” during active sessions.

- Tested with **30+ students**, reducing setup/friction time by **50%** during live coding exercises.

Extracurricular Experience

Coding Instructor, Code Ninjas — Chula Vista, CA

Oct 2023 – Present

Taught programming to **200+ students**, mentoring them through **500+ completed projects**.

Member, ColorStack

2025 – Present

Community for underrepresented CS students; engage in mentorship and peer support.