Billy Nguyen

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Education

University of California, Berkeley — Berkeley, CA

Bachelor of Arts in Computer Science - GPA: 3.85/4.0 — Expected May 2027

Relevant Coursework: Algorithms, Computer Architecture, Probability, Data Structures, Discrete Mathematics, Data Science, Linear Algebra, & Multivariable. **Ongoing:** Operating Systems, Cybersecurity, & Databases

Experience

University of California Berkeley - Natural Resources — Aug 2025 – Present

Software Developer, Research Apprentice — Berkeley, CA

- Embedded a thermal physiological model into a **Node.js backend**, enabling environmental visualizations
- Designed **RESTful API endpoints** for running simulations, allowing the flow of ambient data for comfort results
- Reduced average simulation **API response time by 28%** by adding caching for repeated scenarios

KiDrone — May 2025 – Aug 2025

Software Engineer Intern — Toronto, ON

- Launched a cross-platform offline desktop app with **Electron**, **Node.js**, and **ArcGIS JavaScript API**, enabling forestry crews to visualize geographical data and plan efficient autonomous drone seed drops
- Increased seeding **efficiency by 21%**, and ensured at **least 98% terrain coverage** with a **Python**-based backend
- Reduced total flight time by **26% reduction** by adding a multi-slope coverage generator and a weighted cost matrix
- Optimized path-generation **latency by 95%** via caching and geometry/settings keyed lookups

Nanotechnology Unleashed — Jan 2025 – Present

Software Developer, Research Apprentice — Berkeley, CA

- Built an interactive dashboard to align and visualize theoretical models with experimental impedance data
- Designed a **Python**-based computational modeling framework for nanoscale biosensors, quantifying electrical changes and enabling real-time electrochemical measurements
- Reduced experimental iterations **by 37%** through modeling responses via a configurable simulation interface

Intellikgraph — Jan 2025 – May 2025

Software Developer, Research Apprentice — Milpitas, CA

- Fine-tuned a **Retrieval-Augmented Generation (RAG)** pipeline leveraging GPT-Neo and custom query to generate intelligence reports, improving narrative coherence and reducing manual analyst effort
- Implemented **NLP** models for sentiment analysis to classify tones in large-scale news datasets

Projects

GoogleMeetsTranslate | JavaScript, HTML, CSS, Docker, LibreTranslateAPI

- Reduced **translation latency by 80%** by containerizing LibreTranslate with Docker Compose
- Enabled real-time metrics with sub-second updates, displayed rolling latency, and endpoint health indicators
- Optimized memory usage with bounded queues (max 6 toasts) and timed DOM cleanup with opacity transitions

Finalytics | TypeScript, Node.JS, Express.JS, Mongoose, Vite, Recharts, Redux, React

- Deployed a full-stack finance dashboard with **Recharts KPIs and Redux Toolkit** for scalable state flows
- Built and optimized modular **RESTful APIs**, leveraging **MongoDB** for scalable **CRUD** operations
- Reduced backend **response time 15%** by adding compound indexes and trimming payloads

Awards

University of the Pacific - M.E.S.A: 2nd Place in the San Joaquin Coding Interview Competition

United States Academic Decathlon: 2nd Place Mathematics, History & Economics in the San Joaquin Competition

Hagan Scholar: Awarded $30k in Scholarships for Academic Excellence & manages financial reports for $10k in stocks

Technical Skills

Languages: Python, Java, C, SQL, HTML/CSS, JavaScript
Libraries/Frameworks: Flask, NumPy, Pandas, React.js, Node.js, Next.js, Express.js
Cloud & DevOps: Docker, MongoDB, PostgreSQL, Redis