

Joonhyuk Nathanael Kim

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Education

University of California, Irvine — B.S. Computer Engineering

Expected June 2027

Experience

Optum (UnitedHealth Group) — AI/ML Software Engineer

Feb 2026 – Present

Healthcare technology division processing millions of clinical documents daily

- Built **ML model evaluation pipeline** in React for reviewing NLP outputs across clinical documents; cut annotation time by 40%
- Engineered **data aggregation layer** with Node.js and PostgreSQL; built REST APIs powering metrics across millions of records
- Implemented **interactive data visualizations** with D3.js and Chart.js powering clinical analytics used by product and ops teams
- Designed **reusable component system** in TypeScript; established design tokens and architecture patterns adopted across 3 internal apps
- Shipped on **2-week sprint cycles** collaborating directly with PMs, data scientists, and clinicians to prioritize high-impact work

Archv — CEO & Co-Founder

Aug 2025 – Present

AI compliance infrastructure for regulated industries — legal, healthcare, education, government

- Built **entire SaaS platform from scratch**: React frontend, Node.js API layer, real-time WebSocket pipelines, PostgreSQL data model
- Implemented **real-time collaborative editing** with conflict resolution for concurrent users; architected event-driven sync system
- Acquired **paying users** through cold outreach and live demos; ran sales cycle from first touch to signed contract
- Admitted to **NVIDIA Inception**; built investor pipeline and pitched institutional VCs for pre-seed round; closed advisor commitments
- Drove **product strategy** across 4 verticals (legal, healthcare, education, government); scoped roadmap based on customer interviews
- Achieved **95+ Lighthouse scores**; built responsive, accessible platform meeting WCAG 2.1 with theming and dark mode support

MedVanta — Software Engineer

Jun 2024 – Feb 2025

Clinical operations software for multi-location medical practices

- Built **real-time analytics dashboards** using React, D3.js, and WebSockets; achieved sub-100ms rendering on production datasets
- Developed **native iOS application** in Swift with offline-first architecture, Core Data sync, and push notifications for clinical staff
- Created **component library** with reusable, accessible modules; cut frontend development time by **25%** across the engineering team
- Owned **responsive layouts** across web and mobile; implemented CSS Grid, Flexbox, and SCSS architecture for cross-browser support
- Ran **direct user feedback loops** with medical staff; shipped feature improvements driven by usage analytics and support tickets

Technical Leadership

UAV@UCI — President & Tech Lead

Sep 2023 – Sep 2024

25-member university team building autonomous UAS for AUVSI SUAS competition

- Owned **entire autonomous software stack**: flight control, ground station, CV pipeline, and telemetry — **15K+ lines of code**
- Built **computer vision pipeline** with Python/OpenCV for real-time object detection; implemented sensor fusion for autonomous nav
- Designed and built **9-inch quadcopter from scratch**: frame design, component selection, PID tuning, flight testing
- Led **25 engineers** across software, electrical, and mechanical sub-teams; managed roadmap, sprint planning, and recruiting
- Built **ground station dashboard** in React with real-time telemetry, GPS tracks, and sensor data streaming via WebSockets

Hack at UCI — Logistics Lead & Web Developer

Sep 2024 – Present

UCI's largest hackathon organization hosting 500+ participants annually

- Built **full-stack application portal** with React, Node.js/Express, and PostgreSQL; handled 1000+ applicant submissions
- Implemented **auth system** with JWT tokens, session management, and role-based access control; built admin dashboard for reviews

Projects

- Real-time Telemetry Dashboard** — React + WebSocket dashboard displaying live flight data, GPS tracks, and sensor readings
- Document Editor UI** — Rich text editor built with React, Slate.js, and real-time collaboration via WebSockets
- Healthcare Appointment Scheduler** — iOS app in Swift with offline-first architecture, Core Data sync, and push notifications

Organizations

Hack at UCI — Logistics Lead | Cyber@UCI — Marketing & Design | AI@UCI — Marketing & Design | UAV@UCI — President | ASUCI — SSVP Intern | VFS — Board Member | Theta Tau — Engineering Fraternity

Skills

Languages: TypeScript, JavaScript, Python, Swift, SQL, HTML/CSS, SCSS, C/C++

Systems & Data: Node.js, Express, PostgreSQL, REST APIs, WebSockets, Docker, Git, GitHub Actions, Vercel

AI/ML: Python, OpenCV, TensorFlow, NLP pipelines, model evaluation, sensor fusion, computer vision

Frontend: React, React Native, D3.js, Chart.js, Tailwind CSS, Storybook, responsive design, accessibility

Mobile: iOS/Swift, React Native, offline-first architecture, Core Data, push notifications