Minjoon Eom

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Education

University of Washington — Expected June 2027
Bachelor of Science in Computer Science (GPA: 3.7 / 4.0) — *Seattle, WA*

Experience

University of Washington CBE — Jun 2025 – Present
Software Engineer — *Seattle, WA*
- Built and launched a Python and SQL-powered dashboard to simplify UW's complex ticketing system for staff, adopted across the IT team to centralize requests and streamline workflows.

Personal Robotics Lab — Dec 2024 – Jun 2025
AI Robotics Researcher — *Seattle, WA*
- Engineered a pipeline for the Apple Vision Pro system using Python and Docker containers, orchestrating communication across the computer server and MuJoCo simulation environment, resulting in real-time visualization of hand-pose data for precise robot control.
- Conducted 100+ simulated trials and applied AI models (CNNs for pose estimation) to analyze joint trajectories, improving alignment by 88.6% and reducing jitter by 30% for smoother, more responsive teleoperation.
- Presented research poster at UW Allen School Research Showcase to 300+ attendees, including faculty and industry, highlighting integration of Vision Pro hardware and AI-driven motion analysis.

The Blue Heron — Jun 2024 - Sep 2024
Software Engineer — *Bellevue, WA*
- Architected and deployed a responsive website using React, increasing online orders by 20% and boosting customer engagement (optimized SEO through image compression, lazy loading, and metadata, raising organic traffic by 10%).
- Directed client engagement with the CEO, gathering requirements and iterating on designs to align website with brand identity and improve customer experience.

Projects

Call Captioner - Hiya Innovation Event | *Python, React, Tailwind*
- Leveraged OpenAI's GPT models to enhance emotion reasoning and contextual accuracy in live captions by 40%, improving how emotional intent is interpreted from text.
- Engineered a low-latency FastAPI + WebSocket pipeline, reducing transcription-to-display delay by over 35% through optimized streaming between the browser and backend.
- Presented and demoed the prototype to Hiya engineers and 20 fellow finalists, highlighting how AI can make voice technology more inclusive and empathetic for accessibility users.

Motion | *MongoDB, Express.js, React.js, Node.js*
- Led front-end development for a 7-person team, architecting React.js components and integrating Google Maps API to power geolocation-based event discovery, attracting a 100+ user waitlist before launch.
- Designed and implemented back-end services with Node.js, Express.js, and MongoDB, building RESTful APIs for event creation, search, and authentication that enabled seamless posting and discovery of local events.
- Built a CI/CD pipeline with GitHub Actions and Docker to automate testing and deployment on AWS, reducing deployment errors and accelerating feature delivery, allowing users to access updates with zero downtime.

FlightDB | *Java (JDBC, CLI), PostgreSQL*
- Engineered a relational database in PostgreSQL to manage flights, users, itineraries, and reservations, applying transaction management and integrity constraints for reliable operations.
- Implemented backend services in Java via JDBC to handle authentication with salted password hashing, flight search (direct/indirect), booking with capacity checks, and secure payments through a command-line interface.

Technical Skills

Languages: Python, Java, JavaScript/TypeScript, SQL, C/C++
Technologies:React, Next.js, Node.js, Express.js, REST/GraphQL, Docker, Git/GitHub, AWS (EC2, S3, Lambda, RDS), GitHub Actions (CI/CD), PyTorch, OpenCV
Concepts: Data Structures & Algorithms, Full-Stack Web Development, Database Design & Optimization, API Design, Authentication/Authorization, Distributed Systems, Concurrency, Machine Learning, Computer Vision