Ann Arbor, MI
dongsub0918@gmail.com
+1 (646) 755-1287

Dongsub Kim

linkedin.com/in/aiden-dongsub-kim/
github.com/dongsub0918
dongsubkim.com

Education

University of Michigan – Ann Arbor, MS in Information Science — Aug 2025 - May 2027

University of Michigan – Ann Arbor, BS in Computer Science (Cumulative GPA: 3.53/4.0) — Sept 2020 – Dec 2023

- **Coursework:** Operating Systems, Web Systems, Computer Vision, Programming Paradigms, Linear Algebra, Differential Equations

Skills: Typescript, Python, SQL, C/C++, Swift, React, React Native, Tailwind CSS, Next.js, NextAuth, Three.js, JSCAD, RealityKit, AWS S3, AWS RDS, AWS Elastic Beanstalk, AWS Cloudfront, AWS SNS, TensorFlow, Pytorch, Scikit-learn, Pandas, Numpy, Git

Experience

Research Assistant · **University of Michigan Transportation Research Institute (UMTRI)** · **Ann Arbor, MI** — May 2025 – Present

- Online 3D parametric wheelchair - human interaction simulation model — humanshape.org/WheelchairTool
  - Implemented modeling methods using different frameworks for 3D human (Three.js) and wheelchair (JSCAD) models, and optimized the interaction between these models, reducing latency per computation by approximately 60%.
- 3D face mask scanning iOS mobile application
  - Currently developing an application used to scan faces through camera and generate 3D mask objects, using Swift.

Full Stack Engineer · **HELLOMED** · **Ann Arbor, MI** — Mar 2024 - May 2025

- Production level medical clinic web application — hellomed.com
  - Migrated legacy Wix site to a custom developed application, enhancing UX and enabling full control over the features.
  - Built and deployed HIPAA-compliant systems for processing sensitive patient data, using presigned URLs, auth tokens, and strict CORS rules; reliably handling 300+ monthly submissions of sensitive patient medical data including images.
  - Optimized search engine performance through search engine optimization (SEO) techniques, including the use of traffic-informed metadata, semantic HTML and structured data resulting in a 30%+ increase in organic traffic.

Machine Learning Engineer Intern · **DB Groups** · **Seoul, South Korea** — Jun 2023 - Aug 2023

- Semiconductor wafer chip defect detection model
  - Initiated the machine learning model development from scratch by collecting real faulty wafer chip images from production lines by collaborating with DB Hitek's 3 different semiconductor factory teams.
  - Developed a prototype capable of detecting whether the chip is damaged or not, and classifying 10 most common defect types (11 total classes), achieving 95% accuracy on a test dataset, outperforming manual inspection in reliability.

Activities

IT Team Lead · **Korean International Student Association (University of Michigan KISA)** · **Ann Arbor, MI** — Sep 2022 - Apr 2025

- Founded the IT team and led a team of 7 to proactively build applications addressing the association's IT needs.
- Production level online community web application — umichkisa.com
  - Designed and implemented servers and databases to power the bulletin board feature, serving as a platform for +400 user posts and externally requested job postings, with traffic of ~1,000 unique users per day.
  - Deployed resources on AWS and utilized AWS Cloudfront's content delivery network features to efficiently serve users geographically split between the US and Korea, cutting image loading latency by 95% for users in Korea.
- Real-time food ordering platform — umichkisa.com/pocha
  - Designed and implemented a reliable and live notification system for order status updates using socket communication.
  - Prevented transactions on sold-out items by implementing a fault-tolerant stock update algorithm on the server.
  - Hosted two events which involved 300+ participants, 100+ transactions and $4,000+ revenue using the application.

President · **Korean Scientists and Engineers Association Young Generation (KSEA YG)** · **Chicago, IL** — Jan 2020 - Dec 2021

- Served as the first president for the Chicago chapter, representing students across 5+ universities in the area.
- Led events drawing 300+ participants each, and sustained engagement by organizing virtual events during the pandemic.

Projects

Portfolio Website — dongsubkim.com

- Designed and implemented a web application using only pure CSS for styling, focusing on design and dynamic transitions.
- Applied a systematic design approach by defining color palettes for dark and light modes, carefully assigning colors to specific UI roles to enhance clarity and visual aspects of user experience, without using any external UI frameworks.

MapReduce Backend Server Simulator (Python)

- Implemented a multi-process and multi-threaded server that concurrently processes high volumes of user text inputs.
- Simulated a fault-tolerant distributed system of managers and workers using TCP and UDP socket clients and servers.