Yoohyuk Chang

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EDUCATION

Johns Hopkins University   Baltimore, MD
Bachelor of Science in Computer Science   Expected December 2025
GPA: 3.85 / 4.00

EXPERIENCE

Machine Learning & On-Device AI Engineer Intern   Suwon, South Korea
Samsung Electronics Co.   June 2024 - August 2024
- Analyzed 1500+ sensor data files (each 170KB) from Samsung AI-powered vacuum cleaners, optimizing AI model feature selection to enhance model recall score from 91% to 95%
- Employed transfer learning to unify 2 CNN models' convolution layers in Samsung cleaner's AI, reducing model parameters from 5215 to 2800
- Conducted a research with multitask learning approach to minimize architecture parameters by 30% while maintaining over 93% accuracy for all tasks; presented at company seminar

Software Engineer & Undergraduate Research Assistant   Baltimore, MD
Covid-19 Pandemic Simulation Team at Johns Hopkins (Delineo)   January 2023 - January 2024
- Developed a synthetic population algorithm to generate 3,000 to 30,000 individuals and 1,000 to 10,000 households, based on US Census demographic percentages for household grouping
- Created a realistic movement pattern for synthetic population using NAICS codes and individual demographics such as age, sex, and occupation status to determine population movements

Backend Engineer Intern   Baltimore, MD
Teaching Tools   January 2023 - May 2023
- Led Autogenerating Slides project with the Google Slides API and Flask to convert user-written lesson plans into presentation slides for 100+ teachers
- Facilitated creation of over 15 slides per week by users, shortening manual slide preparation time by 50%
- Improved performance time for creating new slides by 30% by incorporating a Redis caching strategy, reducing average slide creation time from 10 seconds to 7 seconds

PROJECTS

NoteNest, GraphQL, React, PostgreSQL, Git, CI/CD   January 2024 - May 2024
- Architecture: Developed a JAMstack web application for music education, using GraphQL for API management, Prisma ORM with PostgreSQL for database handling, and React for frontend
- File Sharing(Drive): Implemented PDF sheet music sharing feature using Prisma ORM for many-to-many relations in PostgreSQL
- PDF Commenting: Applied a PDF annotation feature, resulting in an average of 10 comments per document
- CI/CD: Set up CI/CD pipelines using GitHub Actions and Vercel, streamlining development workflows and smooth deployment processes
- Testing: Wrote 70+ Unit and End-to-End testings with Jest, React Testing Library, and Cypress

Hopparel, NestJS, React, JWT, Docker, Git   November 2023 - February 2024
- Backend: Created RESTful API with NestJS for users' designs and user data management and implemented JWT for user authentication and authorization
- Frontend: Built front end with React, integrating Zustand for state management and KonvaJS API for apparel customization
- Database: Utilized TypeORM with PostgreSQL for database operations and TypeScript across full stack for robust application architecture

TECHNICAL SKILLS

Languages: Java, Python, C/C++, JavaScript, SQL (Postgres), GraphQL
Other Tools: Tensorflow, Keras, pandas, NumPy, Scikit-learn, Matplotlib, React, Node.js, Flask, Git, Github Actions, Docker