

Jaeyeon Won

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EDUCATION

The University of Texas at Austin — Austin, TX
*Bachelor of Science in **Electrical and Computer Engineering***
GPA: 4.00/4.00

Class of 2027

Relevant Coursework: Data Structures & Algorithms, Digital Logic Design, Software Design, Discrete Mathematics

EXPERIENCE

Undergraduate Research Assistant

May 2025 – August 2025

Kookmin University – Seoul, South Korea

- Researched and evaluated **AI architectures (CNNs, RNNs, Transformers, GANs)** for language comprehension and dyslexia detection.
- Designed **experimental protocols** and analyzed **model performance** across multimodal signals.
- Conducted a **seminar-style technical review of the PGGAN (Progressive Growing of GANs)** paper, presenting architectural innovations, training dynamics, and stability improvements to multiple research groups.

Communication/Signal Squad Leader & Interpreter (E-5)

Jun 2023 – Dec 2024

ROKMC – Pohang, South Korea

- Led the communication team to ensure secure battalion-wide signal operations and served as interpreter during ROKMC-USMC joint exercises, facilitating real-time collaboration.

PROJECTS & LEADERSHIP

Unitime — Student Productivity & Planning Platform | Founder & Lead Developer

- Designed a **UT Austin-specific student platform** in **Swift**, integrating academic profiles, social features, and a **personalized AI agent**, supporting **multi-session planning** and **advising workflows**.
- Integrated a context-aware **AI assistant (Firebase Functions + OpenAI API)** that injects verified **user data** and UT curriculum via **RAG**, reducing irrelevant responses and improving answer precision across **dozens of academic queries**.
- Designed a scalable backend and dashboard using **Firebase Auth**, reducing **navigation steps** by **~40%**.

Dystrace — Dyslexia Screening Web Platform | Founder

- Implemented an **end-to-end system** (Flutter Web + FastAPI) for dyslexia screening that integrates **speech processing, eye-tracking, and comprehension testing**, enabling multimodal data capture from **80+ participants**.
- Developed backend with **Whisper ASR** and **Levenshtein similarity** for reading accuracy, and automated **personalized passage & question generation** using **OpenAI API**.
- Engineered a **data pipeline** (WebGazer.js gaze metrics, STT transcripts, and comprehension scores) into **Firebase/Firestore**.
- Developed an **ML workflow (feature extraction, hyperparameter tuning, Random Forest classifier)** to model dyslexia risk.

Debug Invader — Embedded Systems Final Project

- Developed an arcade-style embedded game on the TI MSPM0G3507 LaunchPad using **C and ARM assembly**, implementing timers, ADC, UART, and interrupts with **<1 ms I/O latency**.

ROKMC Start-up Challenge Competition | Team Leader

Mar 2024 – Aug 2024

- Placed **3rd in the ROKMC Start-up Challenge** among 20+ competing teams.
- **Led** a 3-person team to develop a **Flutter/Dart-based meal-matching app** and authored and pitched the **business plan** to judges from the Hwaseong Chamber of Commerce.

SKILLS

Programming: C, C++, Python, Java, JavaScript, Dart, Swift

Machine Learning: CNNs, RNNs, Transformers, GANs, RAG | **Tools:** WebGazer, Firebase, Flutter, Git

Languages: English (Native), Korean (Native)