Sunny Cho

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Education

University of Wisconsin-Madison Sep 2022 - Dec 2027
B.S. Computer Engineering & Computer Science *Madison, WI*
GPA: 3.97 / 4.00 | *Dean's Honor List*

Australian International School Singapore Jan 2019 - Dec 2021
GPA: 3.90 / 4.00 | *Valedictorian of Class of 2021* *Singapore, Singapore*

Technical Skills

Languages: Java, Python, JavaScript, SystemVerilog, MATLAB, C++, SQL
Frameworks & Libraries: React, Next.js, Node.js, Flask
Databases, Cloud & Tools: MySQL, MongoDB, AWS, Docker, Git, GitHub

Experience

Robotics Research Intern Sept 2025 - Present
Connected & Autonomous Transportation Systems Lab (Prof. Xiaopeng Li) *Madison, WI*
- Developed **computer vision pipelines** in **Python** for real-time image/video processing, collaborating with professors to train deep learning models for environment recognition and autonomous decision-making
- Built an **AI-driven control system** for a robotic arm integrated with an autonomous vehicle, designed to **automate concrete surface repair** and reduce human exposure to harzardous roadwork conditions

Undergraduate Teaching Assistant Aug 2025 - Present
University of Wisconsin-Madison *Madison, WI*
- Instructed **100+ students** through one-on-one tutoring and weekly office hours by applying active learning and problem-based instruction in ECE 352: **Digital System Fundamentals in SystemVerilog**
- Collaborated with professors and fellow TAs to implement a **reverse classroom model**, improving student engagement through interactive problem-solving sessions and peer discussions

Information Technology Consultant June 2025 - Aug 2025
Deloitte *Seoul, South Korea*
- Initiated the digital transformation of a **$50B financial institution** by evaluating 10+ benchmark models from banks using enterprise architecture frameworks to develop blueprint for modernization and technology integration
- Analyzed **AI-OCR, blockchain, and eForm solutions** through cross-industry benchmarking and feasibility scoring to recommend scalable technologies for enterprise-wide document digitization
- Partnered with stakeholders to **analyze Java-based application source code** and **define a reference architecture** by creating inter-application connections that streamlined workflows and improved system efficiency

Sergeant, Network Engineer June 2023 – Dec 2024
Republic of Korea Army *Seoul, South Korea*
- Operated the **PRC-999K** tactical radio system and trained corporals to **manage secure signal operations** across varied combat scenarios, ensuring stable communication channels during brigade-level missions
- Performed geospatial analysis to **optimize relay-station placement**, sustaining brigade-level communications for **1000+ troops** across varied terrain and minimizing signal disruption during field operations
- Served as the communication link between command and front-line units by integrating TICN (Tactical Information and Communication Network) to **enable real-time data flow** and enhance situational awareness

Student Tutor Jan 2025 – Present
University of Wisconsin-Madison *Madison, WI*
- Tutored students in Physics, Chemistry, Mathematics, and Computer Engineering, tailoring explanations to diverse learning styles and reinforcing conceptual understanding through problem-based instruction

Projects

Digital Control System Development | GitHub | *SystemVerilog, Synopsys Design Compiler* Aug 2025–Present
- Designed and implemented a complete **FPGA-based system** for self-balancing control, integrating a fixed-point PID controller, sensor interfaces (**SPI, UART**), and motor PWM drivers into a cohesive real-time SoC.
- Developed modular RTL components in **SystemVerilog** achieving race-free standards, and verified design functionality through self-checking testbenches and file-driven random stimuli.