SAMUEL RYOO

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SKILLS AND INTERESTS

Skills: *Programming (C++, Python, Verilog, Arduino IDE), Hardware (Embedded Systems, Circuit Design), Bioinformatics (RNA-Seq Analysis, Machine Learning Models), Soldering, Conversational Korean*

Interests: *Ad Hoc Cooking, Links Style Golf Courses, Backpacking the San Gabriel Mountains, Acoustic Guitar, Dodgers Baseball*

EDUCATION

University of California Irvine   Irvine, CA
Bachelor of Science in Computer Science and Engineering   *June 2027*
- GPA: 3.697; Deans Honor List

Sunny Hills High School   Fullerton, CA
High School Diploma   *June 2023*
- GPA: 4.7; Top 95th percentile
- Activities: Varsity Boys Golf Division 1 Champion, Varsity Baseball

PROJECTS

Bioinformatics Research Assistant, Thompson Laboratory   Irvine, CA
Department of Neurobiology & Behavior, UCI   *April 2025 – Present*
- Programmed machine learning models to identify protein aggregates, faulty cells, and disrupted pathways within brain tissue
- Analyzing RNA sequencing data and cellular networks to uncover therapeutic targets aimed at restoring neuronal function and preventing disease progression
- Conducting research on Huntington's disease, ALS, and X-linked Dystonia-Parkinsonism through patient-derived induced pluripotent stem cells (iPSC) and mouse model systems

ZotBotics at UCI   Irvine, CA
Electrical Systems Lead   *January 2025 – May 2025*
- Led the electrical design and circuitry of a robotic arm project alongside a 6-member team
- Designed and assembled motor drivers and power distribution systems, programming microcontroller logic using Arduino IDE (C/C++), integrating hardware inputs and outputs
- Conducted troubleshooting, soldering, and iterative testing to ensure system reliability, collaborating with mechanical team members for seamless electrical-physical integration

LEADERSHIP AND WORK EXPERIENCE

Making an Impact   Los Angeles, CA
Founder and President   *September 2020 – August 2024*
- Earned recognition as a certified non-profit organization aiming to build communities through homeless outreach, community clean ups, fundraising, and peer tutoring initiatives
- Grew membership to over 200 members across 10 schools and 4 school districts

In-Home Supportive Services Provider   Fullerton, CA
Care Provider   *November 2024 – Present*
- Provided hands-on care for an 80-year-old grandmother, ensuring daily support in mobility assistance and safety, maintaining quality of life
- Fostered emotional and mental well-being, demonstrated empathy, patience, and problem-solving skills for 70+ hours a month

Private Academic Tutoring   Fullerton, CA
Private Academic Tutor   *June 2021 – Present*
- Tutored 15 students though a curated, individualistic approach to learning and studying to build self-confidence
- Encouraged student interest with a focus in Science, Computer Science, Engineering, and Mathematics