KWANYOUNG PARK

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EDUCATION

University of Southern California — Los Angeles, CA
Major: B.S. Astronautical Engineering. Minor: B.A. Astronomy — September 2025-May 2029

- ASTE101; PHYS151; MATH126; TAC168

Western Academy of Beijing — Beijing, China
High School Diploma, IB Diploma — September 2021-May 2025

EXPERIENCE

USC Rocket Propulsion Lab (RPL) — Los Angeles, CA
Hands On Astronautical Projects

- Fabricated composite components, including wet layup testing fins and nozzle layups, to reinforce flight vehicle airframe for a new, higher-thrust solid engine configuration
- Utilized Python and MATLAB to conduct preliminary analysis of structural components and model flight dynamics for team review
- Utilized Flight On Simulation to simulate upcoming rocket launch

USC AeroDesign Team (ADT) — Los Angeles, CA
Propulsion Engineer

- Calculated precise thrust and battery power output parameters to analyze and mitigate an over-thrust condition in competition aircraft's propulsion system
- Investigated BACK EMF regulation using Electronic Speed Controllers (ESC) and airfoil testing tools to ensure system power remained safely within fuselage's lower capacity margin

De Laval Nozzle Optimization Research — Beijing, China
Independent Research

- Developed a C++ numerical model to analyze nozzle performance, validated geometry using CAD modeling, and constructed a physical load cell thrust measurement device
- Discovered controlling nozzle entrance angle is an effective primary control for small solid rocket motors, ensuring flow reaches Mach speed before neck

Soongsil University Seminconductor Devices & Physics Lab — Seoul, South Korea
Intern Researcher

- Conducted advanced material characterization for flexible photonic synapses using XRD, SEM, TEM, and XS equipment
- Performed rigorous mechanical-flexibility checks and contributed to nanofabrication processes for experimental device development

TECHNICAL SKILLS

Programming & Simulation: C++, Python, MATLAB, Simulink
CAD & Analysis: OepnSCAD, Solidworks (FEA)
Languages: Fluent Korean & English, Intermediate Chinese

ACTIVITIES

Quantitative Excellence

- AMC AIME Qualifier (2023, 2024), ARML World Math Contest Top 100 Team (2023, 2024)

Project Leadership
ProFarmer, Ban Ki-moon Centre Mentee

- Directed an international conference on sustainable agriculture (Ban Ki-moon Centre Mentee), demonstrating complex project planning and execution across international stakeholders

STEM Leadership
STEMX, Math Club

- Founded first STEM competition team at WAB; mentored members and led team to win school's inaugural STEM competition

Leadership Awards

- EARCOS Gobal Citizenship Award(2024), WAB Principal's Award (2024&2025)