JUNSEOK KANG

B.S. in Mechanical Engineering | Class of 2028 | jk2964@cornell.edu | junseok-kang.linkedin

SKILLS

CAD (Inventor, Fusion 360)
Machining using a Manual Mill
Solid Propellant Manufacturing
Python
MATLAB

EDUCATION

Korean Minjok Leadership Academy *Feb 2021 – Feb 2024*
GPA: 4.95 / 5.0 (unweighted)

Cornell University *Aug 2024 – Current*
Mechanical Engineering | Aerospace Minor
GPA: 4.07 / 4.3 (unweighted)

TECHNICAL & LEADERSHIP EXPERIENCE

Cornell Racing FSAE

Suspension Part Designer ; Nov 2024 – Current • Collaborated with 60+ student to design, manufacture, and race an electric FSAE car • Design and manufacture the Blade-Adjustable Anti-Roll Bars for the racecar ARG26 • Designed and Manufactured large-scale Trifilar Pendulum to measure the yaw moment of inertia of the racecar ARG25 • Present the comprehensive design reviews to alumni, leads, and peers, incorporating feedback to optimize the performance and manufacturing of the ARG26 Anti-Roll Bar.

BUZ Aerospace

Founder & Team Lead ; Nov 2021 – Feb 2024 • Established a rocket research team & rocket lab. Developed I-Class Rocket body and 400N solid-propellant engine, completing four hot fires. • Oversaw all research manuals & team management. Grew from 6 students to a group of 18 students with 4 subteams (Structural, Propulsion, Computer, Launch/Recovery Subteam). BUZ Aerospace Video

Project SEM (Satellite Extraction Module)

Chief Executive Officer ; June 2022 – May 2023 • Invented Satellite Extraction Module (SEM), a compact space debris deorbiting system utilizing electromagnetic propulsion. Managed theoretical verification, product design, business model • Led the presentation of SEM & its business model at Johnson NASA center.

Project KMLA Forge

Project Leader ; Feb 2022 – Feb 2024 • Renovated unused golf building into an engineering workshop for young inventors. Designed the facility & appealed to the school for financial support • Opening of the KMLA Forge (2023); developed into official school laboratory for science course with e.g. 3D Printer farm, CNC, Welding Machine, and Laser Cutter.

Haeumnare Physics Club

Captain ; Apr 2021 – Feb 2024 • Compiled latest version of Physics Lab Manual. Coached Junior team for International Young Physicists' Tournament (IYPT) by organizing physics debate sessions and evaluating lab reports. Studied various field of physics: Analytical Mechanics, Fluid Dynamics, and Thermodynamics. Conducted independent research on six IYPT problems (e.g. “Ring on the Rod”, “Thermoacoustic Engine”, “Oscillating Screw”), dedicating two winter breaks at the school. IYPT Research link

HONORS & AWARDS

Conrad Challenge – *Power Pitch Winner & Finalist in Aerospace/Aviation category* (International)
Grade 12 • Innovation competition held at Johnson NASA center. Top 20 teams are qualified as finalists among 950+ teams. Power Pitch Winner is awarded to a top team among finalists who exhibit outstanding engineering design & entrepreneurial skills.

Regeneron International Science & Engineering Fair (ISEF) – *Finalist & National Representative* (International)
Grade 12 • Most prestigious STEM fair. • Led the research of “Tesla Turbine Heat Recovery System (TTHRS)”, a novel brake cooling system that recovers thermal energy dissipated from brake disks. Developed a theoretical model that predicts TTHRS's isentropic efficiency and numerical simulation results using Python. Research TTHRS link • Won the gold prize at 2023 KSEF. Invited to Expo-Sciences Europe & competed in ISEF as South Korea National Representative.

Korea Young Physicists’ Tournament (KYPT) – *Gold Award (2023) & Silver Award (2022) / Team Captain* (National)
Grade 10/11 • Annually, IYPT org release 17 open-ended physics problems. In the national competition KYPT, each team present & defend their results of 6 month of research, judged by professors. • Supervised all 17 problems, leading the team of 5 students.

68th Korea National Science Fair – *Ministerial Award in Physics Category* (National)
Grade 11 • Korea's the most authoritative & oldest science fair. • Researched the physical mechanism of Hula-Hoop's stability & wrote an independent research paper “How Not to Drop your Hula Hoop” Research Paper link • This project was exhibited in Korea National Science Museum.