Gihyun Kim

Hong Kong / Seoul ghkim1106@connect.hku.hk 852 4486 2627 kim-gihyun.github.io

Education

University of Hong Kong *2025 – 2029*
BEng X + MScEng AIE (full scholarship) — CGPA: 3.68 / 4.3

Experience

Laidlaw Scholar — *HKU Laidlaw Leadership & Research Programme* *Apr 2026 – Present*

- Selected as one of 25 Laidlaw Scholars at HKU; conducting faculty-supervised research on UAV-based analysis of urban atmospheric turbulence under Prof. Chun-Ho Liu.
- Developing skills in experimental planning, environmental sensing, and data-driven engineering investigation.

Undergraduate Research Assistant — *Prof. Dong-Myeong Shin, HKU* *Mar 2026 – Present*

- Researching 3D-printed fabric-based triboelectric nanogenerators for wearable sensing and human-machine interface applications.
- Engineering device design, fabrication planning, materials selection, and prototype development for flexible energy-harvesting and self-powered sensor systems.

Member, Aerodynamics & Vehicle Dynamics — *HKU Racing Team* *Feb 2026 – Present*

- Supported composite fabrication via vacuum infusion (layup prep, bagging setup, post-process handling) under team supervision.
- Assisted with vehicle manufacturing and assembly, supporting component fit-up, workshop build tasks, and on-track car testing.

Trainee, Mechanical Division — *HKU Robocon Team* *Sept 2025 – Present*

- Member of the Student-Initiated Group (SIG) for HKU Robocon, specializing in robotics design, mechanical assembly, and competition strategy.
- Gained hands-on experience with SolidWorks, CNC machining, and waterjet cutting to improve robot prototyping and precision fabrication.

Student Researcher — *UC Irvine × GATI Program, South Korea* *Jun – Aug 2023*

- Proposed a Scanning Electron and Fluorescence Microscope System (SEFMS) integrating SEM, fluorescence microscopy, and AI-enabled computer vision for sub-100 nm defect detection in aerospace manufacturing.
- Published as "Advanced Computer Vision and AI Techniques for Nano-Scale Quality Control in Aerospace Manufacturing" in the Journal of Student Research (JSR) and archived as a preprint in the Research Archive of Rising Scholars (RARS).

Projects & Leadership

Teaching Assistant — *AP Physics C: Mechanics, Makers Academy* *Apr – May 2026*

- Graded mock test papers and provided targeted feedback to 20+ students; assisted exam preparation by identifying recurring mistakes and reinforcing core mechanics concepts.

Founder & Developer — *Elmag Club, AP Physics C: E&M Resource Platform* *Aug 2024 – Jun 2025*

- Built and deployed an online learning platform hosting 15+ lectures, problem sets, and recorded explanations for AP Physics C: Electricity & Magnetism, used by 30+ students.
- Engineered site architecture to follow the full E&M curriculum sequence, enabling scalable content expansion for future cohorts.

Additional Information

Programming Languages: Java, C, C++, Python **Tools:** SolidWorks, CNC Machining **TOEFL:** 120/120