Dahui Kang

Mechatronics Engineering Student

(437) 248 – 8378
d3kang@uwaterloo.ca
linkedin.com/in/dahui-kang/

SKILLS

Languages: C++ | Java | C | Python | SQL | HTML | CSS | VHDL |C#

Programs/Libraries: Git | Pandas | MySQL | NumPy | SimPy | Excel | Power BI | DBeaver | Unity

Mechanical/Electrical Programs: AutoCAD | SolidWorks | Fusion360 | Arduino | LTspice

EXPERIENCES

Canadian Solar Inc O&M
May 2023 – Aug 2023

System Performance Analyst co-op — Guelph, ON

- Developed an energy loss impact calculator using **Python Pandas** and **MySQL** to analyze and improve the performance of utility-scale battery storage systems.
- Optimized scripts to handle and process a year's worth of data, integrated with the availability calculator, and generating comprehensive reports on site-operated available energies.
- Analyzed the data to identify areas for improvement and achieve 99% availability of energy for the owners.

Waterloop
May 2023 – Present

Propulsion Member — Waterloo, ON

- Developed a hall effect sensor array utilizing **Arduino** to accurately measure magnetic fields within the linear induction motor of the Goose V hyperloop motor system.
- Proficient in utilizing **LTspice** for circuit modeling, actively contributing to the design and testing of circuit boards on a weekly basis.

PROJECTS

TARS, The Automatic Robotic Sorter
Oct 2022 – Dec 2022

- Used **Robot C** to control LEGO EV3.
- Created a robot that reduces human interaction through a 20% weight reduction, achieving a stabilized base.
- Reduced robot's operating time by 1 minute to save battery life and improved accuracy to 40% for intake and sorting process.

Aboard, Boarding and Disembarking a Plane
May 2022

- Developed a random boarding and disembarking simulator for plane models using **Python SimPy** and modified the simulator to 70%, 50%, and 30% occupied to accurately simulate the Covid-19 pandemic boarding protocol.
- Constructed each boarding-by-section model and by-seat model using the simulator to derive the equation and developed the optimization time calculator to distinguish the best model to apply in boarding policies.

EXTRACURRICULARS

ENGSOC Graphic Designer
Jan 2023 – Apr 2023

University of Waterloo — Waterloo, ON

- Designed 10+ posters and flyers to advertise EngSoc events held every two weeks and collaborated with other members on the posters using **Canva** and **Adobe Photoshop**.

WIE Hack the North
Nov 2022

University of Waterloo — Waterloo, ON

- Participated as the UI/UX designer for a website that offers engineering tutoring services using **Figma** and developed website using **HTML** & **CSS**.

EDUCATION

BASc Mechatronics Engineering, University of Waterloo – Waterloo, ON
Sept 2022 – Apr 2027