Alexander Kang

Evanston, IL

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Education

Northwestern University
Evanston, IL

B.S. Candidate in Computer Science, McCormick School of Engineering | GPA: 3.73 — *Class of 2024*

- Relevant Coursework: Microprocessor System Design, Distributed Systems, Intro to Computer Systems, Fundamentals of Computer System Software, Data Structures & Algorithms, Fundamentals of Computer Programming

Experience

Northwestern Formula Racing
Evanston, IL

Sensor & Data Acquisition Lead — *Jun. 2022 - Aug. 2022*

- Part of a 50+ member student organization that designs, builds, and races a formula-style car for the FSAE competition
- Worked with stakeholders on other subteams to select sensors for the 2022-23 FSAE car based on user requirements
- Designed a newly modularized main data acquisition board that collects raw sensor data from daughter modules across the car, converts it to a readable form, and sends it to the telemetry board
- Designed, breadboarded, and programmed the telemetry board that sends data to base stations and stakeholders around the track

Global Shop Solutions
The Woodlands, TX

Programmer/Analyst Intern — *Jun. 2022 - Aug. 2022*

- Analyzed user requirements and designed new user-friendly interfaces using **Visual Basic**
- Converted old user interface forms from COBOL to **Visual Basic** using the DevExpress tool and the **.NET Framework**

Northwestern University Computer Science Department
Evanston, IL

Undergraduate Teaching Assistant — *Mar. 2022 - Present*

- Assisting the Intro to Computer Systems course, most undergraduates' first exposure to the topic
- Tutoring students on various topics in computer systems, **C** programming, **x86 assembly**, **Unix**, and low-level hardware
- Holding weekly office hours, discussion sections, and grading homework & exams

Northwestern Formula Racing
Evanston, IL

Data Acquisition Project Lead — *Sep. 2021 - Jun. 2022*

- Led a 3 member team that designed, manufactured, tested, and programmed the 2021-22 FSAE car's data acquisition system
- Reduced the size of the main data acquisition PCB by 22% while maintaining functionality & implementing a GPS

McCormick School of Engineering PC Support
Evanston, IL

Computer Consulting Aide — *Sep. 2021 - Present*

- Assisting the Engineering First Computer Labs Administrator in maintenance and support of 5 computer labs
- Assisting the media support team in maintenance and support of 8 classrooms

Projects

Flappy Bird Clone

Can be shared by request — *May 2021*

- Used **C++** to create a playable Flappy Bird clone with increasing difficulty that tracks the player's score
- Wrote multiple unit test cases to test functionality of various sections of source code

Design Thinking & Communication (DTC)
Evanston, IL

Team Member — *Jan. 2021 - Jun. 2021*

- Two quarter long course where students take on two real-world design projects submitted by non-profits, industry members, etc.
- Designed, prototyped, and presented a sustainable seawall planter to restore natural beauty and habitats to the Chicago River
- Designed and prototyped a device to help stroke patients maintain their balance while performing physical therapy exercises
- Wrote thorough design documentation to allow clients to replicate and expand upon prototypes

Skills

Technical Skills C, C++, Autodesk EAGLE, x86 assembly, ARMv7 assembly, Python, SolidWorks

Languages Advanced Proficiency in Mandarin Chinese

Other Unix, Git, Linux

Interests Sustainability, Computer Hardware, Music, Video Games