Nicholas Hsu

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EDUCATION

Northwestern University **Evanston, IL**

Bachelor of Science in Computer Engineering, GPA: 3.93/4.00, Dean's List *Expected June 2024*

- Relevant Coursework: C/C++ Programming, CMOS Circuit and Microcontroller Design, Verilog
- Programming Languages: Python, C, C++, MATLAB, Racket, HTML

RELEVANT EXPERIENCE

GlobalFoundries **Essex Junction, VT**

Incoming Process Engineering and Verification Intern *June 2023 – August 2023*

- Analyze processes within the fab and work with yield team.

GlobalFoundries **Essex Junction, VT**

Robotics and Automation Intern *June 2022 – August 2022*

- Developed and integrated standardized emergency eye wash station inspections into missions using Spot robot through Python programming and Boston Dynamics API. Composed a training manual for developers working with robot.
- Designed Spot robot demonstrations incorporating autonomous pick-and-place created through training and evaluating a machine learning model with TensorFlow object detection API, NumPy, and Pandas.
- Verified robot capabilities within sub-fabrication environment by designing testing methodology to document and evaluate 120 different blockage and interference types, with employment of CAD maps in SOLIDWORKS and Excel.

Telamon Robotics **Carmel, IN**

Robotics Intern *May 2021 – September 2021*

- Led design and programming of cobot demonstrations incorporating pick-and-place, palletization, visual servoing, machine tending, and object quality inspections using Techman collaborative robots and OnRobot grippers. Developed multiple projects in RoboDK involving laser cutting, pick-and-place, and quality inspection.
- Aided in construction of 6 educational cobot workstations, a machine tending cobot stand, and an industrial tape dispenser and cutting machine.

Northwestern University Department of Electrical and Computer Engineering **Evanston, IL**

Research Assistant *January 2023 – Present*

- Developed a generic dynamic timing analysis flow for timing error analysis in arithmetic circuits through Python programming, Verilog testbench generation, and matplotlib.
- Created circuit parameter optimization flow using geometric programming.

ACTIVITIES & LEADERSHIP

Northwestern University Design Thinking and Communication **Evanston, IL**

Team Leader *September 2021 – December 2021*

- Designed adaptive fishing rod support device to allow patients at Shirley Ryan AbilityLab with hemiplegia to return to fishing by assisting in casting and reeling process, awarded Best Design at Design Thinking and Communication Fair.
- Coordinated team meetings to organize timely realization of deadlines, oversaw selection and purchase of materials, and directed construction of adaptive device. Managed and wrote instructions for use, instructions for construction, and final report for adaptive device, as well as presented design to client.

Northwestern University Financial Technologies Club **Evanston, IL**

Core Developer *September 2021– Present*

- Developed Python scripts to generate time series data regarding server health metrics with Git version control.
- Analyzed data collected versus time and integrated a crisis notification system using Slack and custom bots.

PROJECTS

2048++ | C++, UNIX Shell *December 2022*

- Constructed 2048 game from scratch in C++ development environment using subset engine of SDL2.
- Built user-interactive GUI using Model-View-Controller architectural pattern to enable player-driven gameplay.
- Designed game system with custom sprites and event handlers, as well as deployed conclusive unit-testing.

INTERESTS & SKILLS

Skills: Fluent in English and Mandarin Chinese, Microsoft Office Suite

Societies: Northwestern IEEE, Eta Kappa Nu, Taiwanese American Students Association, Philharmonia Orchestra

Interests: Semiconductors, Basketball, CS:GO, Weightlifting, Skiing, Food (Eating), Violin