Shengmiao (Samuel) Jin

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EDUCATION

University of Illinois Urbana-Champaign May 2025 *expected*
Bachelor of Science in Electrical Engineering *GPA: 3.93/4.0*
- Minor in Computer Science

West Nottingham Academy May 2021
High School Diploma *GPA: 4.18/4.33*
- Graduated as Valedictorian

SKILLS

Speaking Languages: English, Chinese(Bilingual)
Programming Languages: Python, ROS, C/C++, LaTeX, R, Matlab, SystemVerilog
Libraries: TensorFlow, PyTorch, Scikit-Learn, OpenCV, Keras
Relevant courses: Statistics and Probability, Signal Processing, Computational Photography, Control Systems

WORK EXPERIENCE

UIUC ECE | *Undegraduate Grader for ECE 210* August 2023 – December 2023
- Graded weekly homework assignments and handle all regrade request for Undergraduate Course Analog Signal Programming
- Helped revise solution manual and grading manual of several homework assignments.

BGI-Shenzhen Institute of Biointelligence | *Intern-Algorithmic Engineer* December 2022 – June 2023
- Implemented a tool to help Biomedical Researchers to perform automatic Image Registration. Was later integrated into Cellbin, a BGI product that enpowered research in Stereo-Seq
- Integrated company's own Segmentation model on a server app via MONAI-based tool for easy access by biomedical researchers
- Tested performance of different segmentation models, helped fine-tuned company's own segmentation models
- Developed an automatic chip analysis tool to facilitate production of biomedical chips.

RESEARCH EXPERIENCE

UIUC RoboTouch Lab | *advisor: Wenzhen Yuan* September 2023 - present
- Designed and implemented an algorithm that decompose an arbitrary image into robot trajectory. Experimented and designed an algorithm for the robot to be able to handle liquid in a even manner
- Tested and designed a diffusion-based Imitation Learning on UR5 Robots.
- Wrote and maintaining a manual on how to use the UR5 robots in the lab.

Tufts Higher Energy Physics Lab | *advisor: Pierre-Hugo Beauchemin* June 2020 – August 2020
- Implemented an Unfolding Algorithm to clean up data from CERN's Large Hadron Collider using Deep Learning algorithms.
- Examined the performs of different Deep Learning algorithms on the specific dataset and how they improves the data quality
- Presented findings in the form of an academic poster at Tufts Summer Research Experience Symposium

HONORS AND AWARDS

James Scholar Spring 2022 - Present
Dean's List Fall 2022, Spring 2022

OTHER PROJECTS AND ACTIVITIES

Artwork Style Classification and Tranfer | CS445 Final Project　　　　　　　　　　　Fall 2023
- Implemented and trained an EfficientNetV2-based classification model, a VGG-based Neural Style transfer and a CycleGAN-based style generator.

Reaction Wheel Pendulum | ECE 486 Final Project　　　　　　　　　　　　　　　Fall 2023
- Implemented a 3-state PD controller with Decoupled Observer and friction compensation that can allows a pendulum to reject disturbance and stay at a unstable equilibrium position with only a rotor

Tetris On FPGA | ECE 385 Final Project　　　　　　　　　　　　　　　　　　Summer 2023
- Implemented the classic game Tetris on a Intel MAX10 FPGA, programmed using SystemVerilog for hardware level and C for software level.

Computer Vision Team Member | Illini Robomaster　　　　　　　　　　　　　　　Fall 2022
- Part of Illini Robomaster CV Team that implemented object detection and tracking algorithm for competition

BitCorn | ECE 220 Honors Project　　　　　　　　　　　　　　　　　　　　　Fall 2022
- Implemented a Bitcoin Price prediction model using LSTM and updated daily result on a website