

SUHAN PARK

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Education

Michigan State University

Sep. 2020 – Dec. 2023

Bachelor of Science in Computer Science, Minor in Mathematics

GPA 3.7/4.0

Activities: Spartan Hackers, ACM MSU, MSU MMA, LikeLion MSU (Vice President)

Relevant Coursework

Graduate-level courses

- AI/ML
- Biometrics and Pattern Recognition
- Big Data Analysis
- Database Systems
- Object-Oriented Software Engineering
- Algorithms and Data Structures
- Mobile Development
- Computer Systems and Architecture

Experience

BMW Group

Jan. 2024 – Apr. 2024

Innovation and Research Intern

Greenville, SC

- Created and analyzed customized vehicle dataset to develop 2D vehicle recognition model for *Mixed/Augmented Reality* being developed in Unity Engine.
- Developed training and inference pipeline for *vehicle recognition model* using *PyTorch*, *CUDA FastAPI*, and *AWS*.
- Researched and implemented *3D segmentation models* in parallel to the *Gaussian Splatting* and *NeRF-based 3D reconstruction* models for 2D-to-3D scene generation task.
- Researched *point-cloud-based 3D object recognition* and *camera perspective automation in 3D scene* for *3D virtual scene generation*.

Action Lab @ Michigan State University

Jan. 2023 – Dec. 2023

Research Assistant

East Lansing, MI

- Conducted a research project advised by *Dr. Yu Kong*. Dealt with various *generative AI and biometric synthesis* models such as Generative Adversarial Networks (GAN), Variational Autoencoders, etc. in the deep fake generation field.
- Prepared and *preprocessed* different datasets (e.g., DFDC, FF++, Celeb DF) using different computer vision frameworks and data science tools such as *PIL*, *OpenCV*, *NumPy*, *Pandas*, etc.
- Developed *evidential deep learning model* that improved vanilla CNN and Vision Transformer backbones to be capable of multi-task open-set problems and uncertainty estimation in *deep fake detection*. Trained and tested using multiple versions of the model and with different datasets and further improved them using *PyTorch*.
- [View Paper](#).

Tech For Good, Inc

Jun. 2021 – Aug. 2021

Software Engineer Intern, Project Lead

Remote

- Developed user *authentication module* and an *API* to control frontend-backend connection for smoother data transfer and interaction between modules.
- Configured and maintained *Microsoft Azure SQL database*, which contained big data for the project.
- Managed the weapon detection alerting AI project team of 30 members, *organized* meetings and repositories of the project, and *assisted and advised* any teammate faced issues on their tasks. All teams have met their benchmarks and the final project goals.

Projects

Urban Science Capstone Project | Python, Data Analysis, Firebase, FastAPI, GPT API

Aug. 2023 – Dec. 2023

- Developed an *API* module to control module-database connection for smoother data transfer and interaction.
- Created database management modules to maintain *Firebase Realtime Database*, which stores big data for the project.
- Integrated *data analysis package*, *T2TF (Text-to-Talking Face) Video Synthesis API*, and *GPT-3.5 API* for text-video generation tasks.
- Led the team by *organized* meetings and repositories of the project, assigning tasks, and progress checks.

Technical Skills

Languages: Python, C/C++, JavaScript, SQL, NoSQL, HTML | Korean

OS and Shell: Linux Ubuntu, Unix, Windows, Bash, Zsh

Cloud and API Frameworks: Firebase, Azure SQL Database, Firebase, AWS EC2 and S3, MongoDB, FastAPI, Flask

Libraries and Frameworks: PyTorch, CUDA, OpenCV, NumPy, Pandas, Scikit-Learn, Seaborn, Matplotlib, React.JS