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Education

Texas A&M University, College Station	Aug. 2023 – Aug. 2025 (Expected)

Master of Science in Computer Science

The Hong Kong University of Science and Technology	Sep. 2019 – Jun. 2023

B. Sc. in Data Science and Technology & Computer Science (Double-Major)

- **Graduated with First Class Honors (CGA: 3.65)**
- **2022/23 CSE Best Final Year Project**: Professor Samuel Chanson Best FYP Award

Skills

- **Programming Languages: C++,** Python, Scala, JavaScript, Java
- **Tech Skills: Git, Linux, GLSL, OpenGL,** WebGL, MySQL, TensorFlow, PyTorch

Internship Experience

Capmi Technology, Ltd. *JavaScript, TypeScript*	Jun. 2022 – Aug. 2022
Software Developer Intern	Sha Tin, HKSAR

A Motion-Capture internship during which two core features were developed by me

- Implemented an Inertial Measurement Unit (IMU) Sensor-to-Body Calibration Method which enables users to wear the sensor at arbitrary orientations.
- Developed a Foot Rooted Kinematic Model (FRKM) algorithm to support model translation on level ground and a *Kalman* Filter to reconstruct human motions including jumping, running, *etc*.

Research Experience

Undergraduate Research Opportunity Project ⌗ *Python, TensorFlow*	Jun. 2021 – Dec. 2021

A Machine Learning Approach to study the relationship between urban morphology and urban heat island

- Utilized a Feedforward Neural Network (FNN) and Random Forest Regressor (RFR) to estimate the annual average spatial distribution of Land Surface Temperature (LST) in Hong Kong Island. This estimation was based on quantitative Urban Morphologic Features (UMF) associated with LST in the Pearl River Delta region, excluding Hong Kong. The models achieved a high Correlation Coefficient of 0.67 and a low Mean Absolute Error of 0.595K.

Projects

Real-time Vacancy Detection System (FYP) ⌗ *Python, PyTorch*	Sep. 2022 – May 2023

- Detecting occupancy status of 12+ parking spaces using one fisheye-camera in real-time.
- Accuracy more than 90% and adopted several methods to overcome noise incurred by pedestrians passing by the parking spaces.

Graphics Projects (Postgraduate) ⌗ *C++, WebGL, OpenGL, GLSL*	Sep. 2022 – Dec. 2022

- **Geometry:** Implemented explicit and implicit Laplacian smoothing methods and Laplacian mesh editing technique to deform mesh surface properly considering mesh geometry and topology.
- **Rendering:** Implemented rendering of volumetric cloud using fractal noise and Ray Marching.

Game Project – *Pixel Fantasy* ⌗ *C++, OpenGL,*	Feb. 2022 – May 2022

- An indie game featuring a 3D ARPG with 2D Sprites without dependency on game engines.
- Set up a standard programmable OpenGL rendering pipeline and incorporate in more advanced graphical effects, including pixelation of characters, shadow mapping, Depth of Field, etc.
- Character control, custom camera that focuses on character, and a powerful AI enemy.