Wu Chi Hsuan

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EDUCATION

Hong Kong University of Science and Technology   Sep. 2019 - June 2023

B.S. Data Science and Technology and B.S. Computer Science, First Class Honors   *Hong Kong*

- GPA: 3.90/4.30   Major GPA: 3.98/4.30
- Exchanged to **École Polytechnique Fédérale de Lausanne** with grade 5.67/6.00
- Award: Academic Achievement Medal (**Top 2%** of all graduates), 6 times Dean's List Award (GPA higher than 3.7), HKSAR Government Reaching Out Award, Continuing Undergraduate Scholarship

RESEARCH EXPERIENCE

Human Mesh Reconstruction From Videos   Oct. 2023 – Present

Research Assistant, Multimedia Technologies Laboratory   *Academia Sinica, Taiwan*

- Incorporate human motion speed and depth information to enhance human pose estimation under occlusion.

Multi-Modal Student Engagement Detection in Video Streaming [pdf]   Sep. 2022 – Sep. 2023

Final Year Thesis, Vision and System Design Lab   *HKUST, Hong Kong*

- Devised a multi-modal backbone that incorporates visual, audio, and speech to classify student engagement.
- Proposed ranking-based loss using contrastive learning to tackle intra-class variance. Improve accuracy by **5%**.
- First-author paper submitted to **AAAI AI for Education Workshop**. Pending US Utility Patent application.

Interpretable Models for Scoring Bias in Documents [arxiv]   Feb. 2022 – Feb. 2023

Research Assistant, Information and Network Dynamics Lab   *EPFL, Switzerland*

- Proposed interpretable model to classify biased articles on Wikipedia. Enhanced classification accuracy by **10%**.
- Designed model structure that can contextually score term subjectivity across different document domains.
- Second-author paper submitted to **The European Chapter of the ACL**.

SELECTED PROJECT

Day Night Transformation to Improve Feature Matching [pdf][code]   Sep. 2021 – Dec. 2021

Computer Vision Project   *HKUST, Hong Kong*

- Developed CycleGAN model to transform illumination and improve feature matching of day-night images pair.
- Designed loss to improve image quality and training stability. Increased high-confidence feature matching by **13%**.

Super-Resolution on Computer Texts   June 2021 - Sep. 2021

Undergraduate Researcher Opportunity Program   *HKUST, Hong Kong*

- Designed a two-stream model to enhance colorization and text boundary on images with blurry texts.
- Applied Gradient-Prior Loss to improve boundary clarity and reduced MSE Loss by **8.4%**.

Human Face Generation with GAN   Nov. 2020 - Feb. 2021

Undergraduate Researcher Opportunity Program   *HKUST, Hong Kong*

- Using StyleGAN and different models to perform face morphing and interchange facial organs.
- Designed algorithm-based method to perform natural facial organ interchanging on images.

OTHER EXPERIENCE

Path Advisor (in-campus map) - Devops   Sep. 2021 - Dec. 2021

- Volunteered to develop CI/CD pipeline with gitactions for digital campus map.

QualiFly (formerly ExamPal) - Startup Team Member   Nov. 2020 - Nov. 2021

- Led the prototype development of online learning platform. Provide customized study suggestions for students.
- Selected and funded by Hong Kong Science and Technology Park Incubation Programme.

Entrepreneurship Center Student Group - Web Developer   Sep. 2021 - June 2022

- Volunteered to build entrepreneurship center website and held entrepreneurship promotion events.

SKILLS AND EXTRACURRICULAR

Languages and Tools: Python, C++, Pytorch, OpenCV, Git, Gitaction, Docker
Extracurricular: JP Morgan Chase Code for Good Finalist (**top 4** out of 40 teams), HK Techathon Finalist (**top 15** out of 167 teams), Science School Peer Mentor, Topic Modeling Student Helper