Yihan Wang

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EDUCATION

Zhejiang University, Hangzhou, CN
- BSc, Energy and Environment Systems Engineering *Sep 2018 - Jun 2022*
- GPA: 3.91/4.0 (2nd/86)
- Honors/Awards: Zhejiang Provincial Government Scholarship (2019-2020, 2020-2021), First-class scholarship of Zhejiang University (2018-2019; 2019-2020), Honorary title of outstanding student at Zhejiang University (2018-2019, 2019-2020)

École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, CH
- Master of Civil Engineering (Minor: Computational Science and Engineering) *Sep 2022- Present*
- Relevant Coursework: Deep Learning for Autonomous Vehicles, Machine Learning, Optimization for Machine Learning, C++ Programming in Scientific Computing, Applied Data Analysis

RESEARCH EXPERIENCE

EPFL, Lausanne, CH *April 2023 - Present*
Semester Project*: Pose estimation based monocular 3D lane detection*
- Trained a deep neural network for detecting 3D lane markers from single RGB camera for autonomous vehicle assistance system.
- Adapted a field-based, bottom-up 2D human pose estimation algorithm under pytorch framework for monocular 3d lane detection.
- Fine-tuned a monocular depth estimation model on an ultra-deep, sparsely annotated outdoor lane dataset, enabling the model to predict depth beyond 80 meters, improving the model's performance on outdoor autonomous driving scenario.
- Parallel training on HPC resources.
- Tools/Methods: Computer vision, Deep Learning, CNN, Object Detection, 3D Localization, Transfer learning, HPC tools
- Supervisor: Prof. Alexandre Alahi, VITA@EPFL

Zhejiang University, Hangzhou, CN *Aug 2020 - Aug 2021*
First Author Publication: *Tracing the origin of large respiratory droplets by deposition characteristics inside respiratory tract during speech*
- Conducted a numerical investigation into importance of airborne transmission in the spread of respiratory infectious diseases.
- Published in *Building Simulation, **16**, 781 – 794 (2023),* orally presented in *IEHB (2021)*
- Supervisor: Prof. Jianjian Wei, Zhejiang University

PROJECT

EPFL, Lausanne, CH *Mar 2023 - May 2023*
Course-related Project: *Evaluating a zeroth-order optimization algorithm*
- Implemented and evaluated zeroth-order optimization method in comparison with conventional first-order optimization method for deep learning task, conducted theoretical and experimental analysis regarding convergence speed, space complexity and robustness.
- Instructor: Prof. Martin Jaggi, Prof. Nicolas Flammarion, EPFL

EPFL, Lausanne, CH *Oct 2023 - Present*
Course-related Project: *A beer recommendation system*
- Developed a recommendation system utilizing data from a beer review platform, incorporating numerical ratings and textual reviews.
- Conducted analysis on regional beer preferences and beer style similarities; employed NLP techniques to extract key descriptive terms.
- Instructor: Prof. Robert West, EPFL

EPFL, Lausanne, CH *Sept 2023 - Present*
Semester Project: *Interpretable machine learning for analyzing residents-urban forms interactions*
- Constructed and processed massive time-series dataset from scattered opensource data, including hourly pedestrian flow and a large variety of urban form features.
- Applied traditional machine learning techniques to evaluate the influence of urban features on pedestrian dynamics, providing insights for human-centric urban design.
- Instructor: Prof. Andrew Sonta, EPFL

LEADERSHIP EXPERIENCE

Qiu Shi Tide, Hangzhou, CN
Director, News and Information Center *Jun 2019 - Jun 2020*
Leading my team members as the editor-in-chief as well as journalist. Issued reports cover wide range of topics, including the survival of autistic people and their families, the work of Chinese take-out laborers, epidemic-resulted layered plight of international students at home and abroad, compulsory demolition of a gathering area for migrant workers, etc.

MISCELLANEOUS

- Skills: Computer Vision, Deep Learning, CNN, Python, C++, Pytorch, Tensorflow, Git, Data visualization
- Certificate: Deep Learning Specialization @ coursera https://coursera.org/share/62bc537428f7a9ffc3c121e8fe8549e4
- Language: Mandarin, English