

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

Publication: Tracing the origin of large respiratory droplets by deposition characteristics inside respiratory tract during speech

- Yihan Wang**, Jianjian Wei, Caroline X. Gao, Li Liu. *Building Simulation*, **16**, 781 – 794 (2023), orally presented in IEHB (2021)
- Investigation into importance of airborne transmission in the spread of respiratory infectious diseases using computational fluid dynamics based on a realistic human airway model.
- Supervisor: Prof. Jianjian Wei, Zhejiang University

PROJECT

EPFL, Lausanne, CH

Mar 2023 - May 2023

Course-related Project: Improving Neural Networks with Zeroth-order and First-order Hybrid Optimization Methods

- 1st and 0th order optimization methods were implemented and evaluated across various pytorch-based neural network configurations.
- Increased stability found for ZO methods. A hybrid solution was investigated optimizing both computational costs and efficiency.
- Instructor: Prof. Martin Jaggi, Prof. Nicolas Flammarion, EPFL

EPFL, Lausanne, CH

Oct 2023 - Present

Course-related Project: Analyzing User Preferences and Naming Impact for Guiding Targeted Recommendation

- Developed a recommendation system utilizing data from beer review platforms, incorporating numerical ratings and textual reviews.
- Both statistical methods and natural language processing techniques were used for comprehensive recommendation criteria.
- Deployed an interactive webpage telling the data story.
- Instructor: Prof. Robert West, EPFL

EPFL, Lausanne, CH

Sept 2023 - Present

Semester Project: Interpretable machine learning for analyzing residents-urban forms interactions

- Data processing and traditional machine learning techniques application to evaluate the influence of urban features on pedestrian dynamics, providing insights for human-centric urban design.
- Instructor: Prof. Andrew Sontag, 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