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Yucheng Wang

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Education

ETH Zurich **Sept. 2024 - Now**

- **Master of Science in Computer Science**, major in Machine Intelligence

Joint Bachelor's Degree Program **Sept. 2019 - May 2024**

Columbia University **New York, NY**

- **Bachelor of Arts in Computer Science (Summa Cum Laude)**, GPA: 4.10/4.00
- Relevant Coursework: System Programming, Computational Linear Algebra, Computer Science Theory, Artificial Intelligence, Machine Learning, Deep Learning, Applied Computer Vision, High-performance Machine Learning, Computational Aspects of Robotics, Machine Learning with Applications in Finance

City University of Hong Kong **Kowloon, Hong Kong**

- **Bachelor of Science in Computer Science (First Class Honor)**, GPA: 4.03/4.30
- Relevant Coursework: Computer Programming, Calculus, Probability and Statistics, Discrete Mathematics, Computer Organization, Computer Networks, Data Structures, Operating Systems, Software Engineering, Database System, Design and Analysis of Algorithms, Multimodal Interface Design

Work Experience

Aispeech **Suzhou, China** **Jun. 2024 - Aug. 2024**

Machine Learning Engineer Intern, *Cloud Speech Recognition Group*

- Led the training and development of a speech emotion recognition model for Mercedes-Benz's vehicle dialogue system, refining the pre-trained model to enhance audio emotion detection accuracy by 13% compared with the old system.
- Designed and implemented a multi-modal fusion algorithm to synergize outputs from speech and text emotion recognition models, achieving superior accuracy in real-time emotional state classification and aligning closely with client demands for realistic product integration.
- Trained a speech recognition model for Thai language using Feedforward Sequential Memory Networks (FSMN), enhancing speech processing capabilities and model adaptability to local dialects.
- Co-first authored a comprehensive survey paper on Speech Large Language Models (LLMs), currently in preparation for submission to a peer-reviewed journal.

iFlytek **Suzhou, China** **Jun. 2022 - Aug. 2022**

Machine Learning Engineer Intern, *Computer Vision Group*

- Collaborated in the development of a Parkinson's disease identification system using human pose estimation techniques.
- Engineered a pipeline to filter consistent human body key points from depth and RGB camera images, preparing data for semi-supervised learning and significantly reducing the workload of manual labeling.
- Independently developed a Human Keypoints Labeling software using PyQt, enhancing manual data annotation efficiency.

Research Experience

City University of Hong Kong **Kowloon, Hong Kong** **Jun. 2021 - Apr. 2023**

Research on Human-Computer Interaction, *Supervisor: Dr. Zhicong LU, Assistant Professor at the Department of Computer Science, City University of Hong Kong*

- Utilized sophisticated computational models to analyze user behavior patterns in online communities, uncovering insights into the relationship between real-life sports events and online discussions, contributing to online community design.
- Developed an innovative metric to measure the gap between pre-match expectations and actual match results, addressing the issue of low-scoring football matches not accurately reflecting fans' impressions, thereby quantifying previously elusive aspects of fan sentiment.
- Built a visualization system for a prototype online sports discussion forum, integrating findings from user behavior pattern analysis. Implemented using front-end JavaScript frameworks such as Bootstrap, Vue.js, and Chart.js.
- Published the paper based on the research result which is accepted by CHI'23: Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems: Yucheng Wang, Zhicong Lu. Making Sense of Post-match Fan Behaviors in the Online Football Communities. [https://doi.org/10.1145/3544548.3581310]

CityU Shenzhen Research Institute **Shenzhen, China** **Aug. 2021 - Mar. 2022**

Research Assistant, *Supervisor: Dr. Zhenjiang LI, Associate Professor at the Department of Computer Science, City University of Hong Kong*

- Collaborated on a research project focusing on deep neural network optimization for MCUs (Microcontroller units), applying pointwise pruning techniques to convolutional neural networks.
- Conducted experiments on the research by coding and deploying TinyML applications on microcontrollers and mobile devices.

Honors and Awards

- **Member of Phi Beta Kappa Society** for graduates in the 2023-2024 academic year - Inducted for demonstrating exceptional academic integrity and achievement in the liberal arts and sciences at Columbia University.
- **Russel C. Mills Award** (2023-2024) - Cash prize awarded by Columbia University's computer science department to a major demonstrating outstanding excellence in computer science.
- **George B. Bernheim Scholarship** for the 2023-2024 academic year - Named scholarship awarded by Columbia University.
- **Dean's list** at Columbia University School of General Studies (Fall 2022, Spring 2023).
- **Outstanding Academic Papers by Students** at City University of Hong Kong 2022 - Awarded recognition for my Final Year Project, "Online Community User Behavior Pattern Analysis," at City University of Hong Kong, 2022 (Granted to three students annually within the Department of Computer Science).
- **Bronze Award in the Global AI Challenge for Building E&M Facilities** 2021-2022 - Proposed a solution based on gradient boosting decision tree algorithm for forecasting building cooling load.
- **YEUNG Kin Man Scholarships** for CityU-Columbia U Joint Bachelor's Degree Program 2021-22.
- **Dean's list** of College of Engineering at City University of Hong Kong (Spring 2020, Fall 2020, Spring 2021, Spring 2022).

Memberships

- Member of the Honor Society of the Columbia School of General Studies.
- Member of the Columbia Chapter of Upsilon Pi Epsilon, the International Computer Science Honor Society.
- Member of The ACM Special Interest Group on Computer-Human Interaction (SIGCHI).
- Member of CityU Golden Key Club.

Skills and Interests

- Programming languages: C/C++, Python, Java, SQL, HTML/CSS/JavaScript
- Tools and Frameworks: Git, Linux, Make, PyTorch, TensorFlow, LaTeX
- Languages: Chinese (Native), English (Proficient)
- Interests: Basketball (Member of Mainland Basketball Team of City University of Hong Kong), Music Production, Violin