WILLIAM HAN

+1(310) 561-9406 ◇ San Jose, CA
willhan327@outlook.com ◇ LinkedIn ◇ willxxy.github.io ◇ GitHub

EDUCATION

BA in Psychological Science, University of California, Irvine — June 2022
GPA: 3.783/4.000

RESEARCH INTEREST

William Han's research interest is in multimodal learning for applications in natural language processing, computer vision, and robotics. He is also interested in discovering and applying mathematical and statistical techniques (e.g. canonical correlation analysis, optimal transport) to combat the challenges of translation, alignment, fusion, co-learning, and representation of multimodal data.

PUBLICATIONS

- Jielin Qiu*, William Han*, Jiacheng Zhu, Mengdi Xu, Michael Rosenberg, Emerson Liu, Douglas Weber, Ding Zhao. "Transfer Knowledge from Natural Language to Electrocardiography: Can We Detect Cardiovascular Disease through Language Models?" ArXiv:2301.09017 [Cs], 21 Jan. 2023, arxiv.org/abs/2301.09017. Accepted EACL 2023.
- William Han*, Jielin Qiu*, Jiacheng Zhu, Mengdi Xu, Douglas Weber, Bo Li, Ding Zhao. "An Empirical Exploration of Cross- Domain Alignment between Language and Electroencephalogram." ArXiv:2208.06348 [Cs, Q-Bio], 10 Aug. 2022, arxiv.org/abs/2208.06348. Under Review ACL 2023.

EXPERIENCE

Research Intern — Oct 2022 - Present
Honda Research Institute, USA — *San Jose, CA*

- Develop algorithms for visual-language navigation and vision question answering.
- Work on object detection, visual relation detection, and scene graph generation for micromobility applications.

Research Intern — Mar 2022 - Present
Carnegie Mellon University; Safe AI Lab — *Remote, CA*

- Work on reinforcement learning for embodied AI using image captioning and large language models.
- Research on intersections between natural language processing and physiological signals and their applications in downstream tasks, such as sentiment analysis, disease detection, and relation detection.

Research Intern — Dec 2021 - Present
University of California, Irvine; Center for Artificial Intelligence in Diagnostic Medicine — *Irvine, CA*

- Construct U-Net for segmentation of blood vessels in histopathological images for Alzheimer's Disease.
- Design algorithms for detection and segmentation of invasive, in situ, and normal cells in histopathological images using transfer learning.

Tutor — Jan 2020 - Present
One2One Tutoring — *Remote, CA*

- Teach Mathematics, Social Studies, Science, and English for 40+ students in grades 6 through 12.

Machine Learning Engineer Intern — Jun 2022 - Oct 2022
Foretify.ai — *Remote, CA*

- Create and deploy multiple geographic information system (GIS) applications through ArcGIS

- Integrate machine learning models into GIS to do tasks such as travel safety prediction, solar panel construction forecasting, object detection, and chatbot.
- Develop GANs for generating cartographic maps from satellite imagery.

EXTRA-CURRICULAR ACTIVITIES

WIKMM Project Leader Sep 2021 - Jun 2022
AI Club at UCI *Irvine, CA*

- Assemble a team of 5 AI club members and establish WIKMM, a project that aims to build state of the art classification and segmentation models for invasive, in situ, and normal cells in histopathological images.

SEW.NLP Group Leader May 2022 - Jun 2022
UCI Machine Learning Hackathon 2022 *Irvine, CA*

- Lead a group of 3, including myself, and build a Question Answering model pretrained on BERT and XLNet for scientific documents in the UCI ML repository.

pests.ai Group Leader Mar 2022 - April 2022
AI LA Open Innovation Challenge 2022 *Los Angeles, CA*

- Lead a group of 5, including myself, and develop an GIS application for predicting and mapping potential areas goldspotted oak borers (GSOB) and invasive shothole borers (ISHB) might infiltrate.

HONORS/AWARDS

- Overall Runner Up (2nd place) for UCI Machine Learning Hackathon 2022
- Overall Runner Up (2nd place) for AI LA Open Innovation Challenge 2022
- Best Project Proposal Award 2021 for AI Club at UCI
- Dean's List, UCI 2020-2022

SKILLS

Technical Skills	Python, Pytorch, TensorFlow, Linux, C++, MATLAB, CUDA, OpenCV, R, JavaScript
Soft Skills	Leadership, Communication, Management, Teaching, Research, Learning