Philip Yao

EDUCATION

University of Michigan-Ann Arbor
B.S.E Computer Science & B.S.E Electrical Engineering — Graduated April 2020
- GPA: 3.87/4.00; Summa Cum Laude; College of Engineering Honors Program, Dean's List, University Honors

RWTH Aachen University — Summer 2017 in Aachen, Germany
- Research/study abroad where I programmed an Arch Linux microprocessor & also studied German

WORK EXPERIENCE

Software Engineer
Google — August 2021 – Now in Mountain View, CA
- On the Google Assistant ecosystems core team

Software Development Engineer
Amazon — May 2020 – April 2021 in Seattle, WA
- Within Alexa AI, Intelligent Decisions, Ranking and Arbitration Science Engineering Team
- Worked on Alexa's user intent ranking deep learning model by researching transfer learning techniques
- Added features to training infrastructure by integrating automated hyperparameter optimization using Microsoft NNI
- Maintained data pipeline by deprecating old tools and rewriting software to use new APIs

Teaching Assistant
University of Michigan — September 2019 – December 2019 in Ann Arbor, MI
- Instructor for EECS 314: Electrical Circuits, Systems, and Applications
- Planned and taught a discussion section, laboratory section, and graded lab reports and exams

Machine Learning Student Researcher (NSF REU)
Cal Poly Pomona — April 2019 – September 2019 in Pomona, CA
- Generated adversarial 3D models in Pytorch using a differentiable renderer (Neural 3D Mesh Renderer) and ran experiments investigating black-box attacks

Photonics Student Researcher
University of Michigan — April 2018 – April 2019 in Ann Arbor, MI
- Improved an optical setup which generated Fresnel holograms using a spatial light modulator
- Programmed the SLM in Matlab

Electrical Engineer Co-op Intern
Rockwell Collins — August 2017 – December 2017 in Cedar Rapids, IA
- Worked on flight deck hardware, mainly on the flight control panel (FCP 5150) for the Advanced Regional Jet
- Analyzed schematics, mechanical assemblies, and PCBs of avionic equipment for debugging test failures

Computational Biology Student Researcher (NSF REU)
Texas State University — June 2016 – September 2016 in San Marcos, TX
- Utilized machine learning and statistical techniques to group melanoma patients into gene modules to predict survivability and earned an excellent project award
- Used R and the Weighted Gene Co-Expression Network Analysis (WGCNA) R package to create a correlation network by clustering gene expression data into gene modules

Sales Representative
Toronto Star — August 2013 – December 2013 in Toronto, Ontario
- Sold subscriptions of the Toronto Star newspaper to neighborhoods from door to door

PUBLICATIONS

- Yao, P., So, A., Chen, T., & Ji, H. (2020). On Multiview Robustness of 3D Adversarial Attacks. In *Practice and Experience in Advanced Research Computing* (pp. 372–378). Association for Computing Machinery.
- Yao, P., So, A., Chen, T., & Ji, H. (2020). Multiview-Robust 3D Adversarial Examples of Real-world Objects. In *CVPR 2020 Workshop on Adversarial Machine Learning in Computer Vision* (Poster/Short Paper).
- Wang, R., Chen, T., Yao, P., Liu, S., Rajapakse, I., & Hero, A. (2021). ASK: Adversarial Soft k-Nearest Neighbor Attack and Defense. *arXiv preprint arXiv:2106.14300*.
- Zainulabadeen, A.*, Yao, P.*, & Zare, H. (2017). Underexpression of specific interferon genes is associated with poor prognosis of melanoma. *PloS one*, *12*(1), e0170025.
- * Co-First Author

MISCELLANEOUS

- **Technical Skills**: C++, C, Python, PyTorch, Java, Matlab, R, Linux, Git, Verilog, Embedded Systems, Computer Architecture, Machine Learning