Fiona Victoria Stanley Jothiraj

Github | Linkedin | Google Scholar | fiona.victoria@gmail.com | +1 425-283-7633 | Portfolio

Education

Oregon State University — September 2023
Incoming – Doctor of Philosophy (PhD) in Artificial Intelligence
Area of Research: Security and Privacy in AI/ML systems, Trustworthy AI
Scholarship: Outstanding Scholars Program

University of Washington Bothell, Washington — September 2021 – June 2023
Master of Science in Computer Science and Software Engineering
Coursework: Deep Learning and Artificial Intelligence, Machine Learning, Internet of Things, High Performance Computing, Research Methods, AI for Social Good, and Software Architecture
GPA: 3.9/4

PSG College of Technology, India — July 2015 – May 2019
Bachelor of Engineering in Robotics and Automation Engineering
Coursework: Machine Learning for Robotics, Artificial Intelligence for Robotics
GPA: 9.58/10

Publications

Phoenix: A Federated Generative Diffusion Model — ArXiv, 2023 [Pre-Print]
Fiona Victoria Stanley Jothiraj and Afra Mashhadi

Personalized Emotion Detection using IoT and Machine Learning — ArXiv, 2022 [Pre-Print]
Fiona Victoria Stanley Jothiraj and Afra Mashhadi

Time Series Prediction for Food sustainability — ArXiv, 2022 [Pre-Print]
Fiona Victoria Stanley Jothiraj

Empirical Dynamic Modelling of the Multi-Source Park Visitation Data — Data for Policy, 2022 [Conference Paper]
Vahid Shamsaddini, **Fiona Victoria Stanley Jothiraj**, Mandy Chen, and Afra Mashhadi

Under Review

Uncovering Nostalgic Conversations in Social Media Posts

Research Experience

Graduate Research Assistant — June 2023 – present
Oregon State University: SAIL Lab
Advisor: Dr. Sanghyun Hong
- Privacy preserving AI/ML systems

Graduate Research Assistant — June 2022 – Jan 2023
UW Bothell: Computation Behavioral Modeling (CBM) Research Lab
Advisor: Dr. Afra Mashhadi
- Inspired by societal communication and behavior in social media, defined the research around the area of studying nostalgia or reminiscent behavior on social media
- Built traditional Natural Language Processing (NLP) models for classifying nostalgic conversations on the Twitter platform
- Applied NLP feature strategies: Bag of Words (BoW), Parts of Speech (POS), Term Frequency-Inverse Document Frequency (TF-IDF) and Word Embeddings
- Implemented transformer models: RoBERTa, DistilBert, ensemble models and ensemble-feature models to improve detection accuracy
- Mentored two undergraduate students to prepare exhaustive amounts of Twitter data
- Co-authored the empirical research paper on "*Uncovering Nostalgic Conversations in Social Media Posts"*

Invited Talks

Flower Monthly, August 2023
Invited talk on 'Phoenix: A Federated Generative Diffusion Model'

Industry Experience

Data Scientist June 2023 – present
Harvard in Tech
- Volunteering as a thought leader in the "Call for Action" team.
- Provide guidance and vision to build an NLP model that aims to detect unreliable news articles.
- Core mission of our team is to address critical social issues through a group of volunteers from industry and academia.

Machine Learning Engineer June 2019 – March 2020
Multicoreware Inc, India
- Designed and developed an EV Quantization logic in TensorFlow GPU for quantization aware training and Tensorflow Lite inference of Deep Neural Networks
- Deployed the open-source product to production. The project is used for Synopsys Design Ware EV Processors
- Development using C++, Python, Intel Intrinsics and Git
- Mentored peers on the quantization concepts and workflow of EV TensorFlow

Machine Learning Intern December 2018 – May 2019
Multicoreware Inc, India
- Skin Cancer Detection - Developed a custom Convolutional Neural Network (CNN) model to detect moles for potential skin cancer by training with gigabytes of clinical image data
- Audio Video LipSync - Implemented the Audio Video LipSync™ API in Intels' OpenVino through a high-level C++ inference engine for 5x speedup
- Deployed the quality control tool for Over-the-top (OTT) streaming service providers, using deep learning technology
- Setup the LipSync™ technology demo for the National Association of Broadcasters Show (NAB 2019)
- Enhanced the user experience with a GUI to create out-of-sync videos using PHP and Python

Awards & Achievements

2023 **Outstanding Scholars Program** - Oregon State University
2022 **Virtual Scholarship** - Grace Hopper Women in Computing Celebration
2021 **Amazon Web Services (AWS) - Machine Learning Specialty** - Certified
2019 **Academic Excellence** (Ranked 1/80) - Robotics and Automation Engineering Association
2019 **Monarch of the Month** - Individual contribution to TensorFlow quantization at Multicoreware Inc

Leadership

2018 **Website developer** for the International Conference on Automation Robotics and Sensing
2017 **Graphic Designer** for the College Magazine 'The Bridge'
2016 **Coordinator** for the IEEE SRiSHTi'16 Technical symposium held at PSG College of Technology

Skills

Languages: Python, C, C++, CUDA, MATLAB, SQL
A.I Tools: TensorFlow, PyTorch, Keras, HuggingFace, Flower, Caffe, Scikit-learn, OpenCV, Kats, Pandas, NumPy, PySpark, Matplotlib, SciPy, Weights & Biases
Other Tools: AWS (IoT Core, Sagemaker, Lambda, Kinesis, Glue, S3, SNS), Azure (IoT Hub, Stream Analytics, Function App), LaTeX, Git

Academic & Research	**ML/DL**	**Leadership**	**Other skills**
Open-source contribution	Quantization of Neural Networks	Mentorship	Technical writing
In-depth literature review	Multimodal Neural Networks	Project management	Application development
	Federated Learning		Pointillism Art
	Diffusion Models		Piano – Grade 6