Farima Fatahi Bayat

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EDUCATION

UNIVERSITY OF MICHIGAN

PH.D. IN COMPUTER SCIENCE 2020-2025 | Ann Arbor, MI, USA Advisor: H. V. Jagadish Cum. GPA: 3.92/4.0

UNIVERSITY OF TEHRAN

B.Sc. IN COMPUTER ENGINEERING 2014-18 | Tehran, Iran Advisor: Mehdi Modarressi Cum. GPA: 3.45/4.0

COURSEWORK

GRADUATE

Advanced Artificial Intelligence Machine Learning Natural Language Processing Database Management Systems Algorithms

UNDERGRADUATE

Theory of Formal Language and Automata Signals and Systems Real-Time and Embedded Systems

AUDITED

Practical Deep Learning for Coders Machine Learning with Graphs

SKILLS

LANGUAGES

Software

• Java • C • C++ • CUDA

Scripting

- Python JavaScript Bash Script Query
- SQL, MQL (MongoDB Query Language)

Hardware

• System/Verilog • VHDL

TOOLS

Machine Learning

• PyTorch • Caffe

Databases

• MySQL • MongoDB

Web

- Jupyter Notebook ReactJS (basic)
- HTML/CSS

LINKS

Google Scholar | LinkedIn | GitHub

WORK EXPERIENCE

DATA ENGINEER INTERN DATA SCIENCE TEAM | DIGIKALA Summer 2019, Tehran, Iran

• Developed a framework that estimates the probability of purchase by the user in the current session by monitoring the customer's recent behavior.

RESEARCH EXPERIENCE

DB GROUP | JUNE 2020 - PRESENT

CSE Department, University of Michigan | Advisor: H. V. Jagadish

• Developing an Open Information Extraction system that extracts compact fine-grained triples from raw text using an end-to-end pipelined approach.

GEMS LAB | November 2019 – December 2020

CSE Department, University of Michigan | Advisor: Danai Koutra

• Developed a framework that finds user communities with similar product preferences by learning robust text-based, and graph-based representations.

NOC LAB | September 2017 – August 2018

ECE Department, University of Tehran | Advisor: Mehdi Modarressi

• Extending the Ristretto tool to optimize neural network weights for hardware implementation of an object recognition system. [Paper]

TEACHING EXPERIENCE

Fall 2018Operating SystemsFall 2018Computer-Aided Digital System DesignWinter 2017Computer Architecture/ Lab

Mehdi Kargahi Mehdi Modarressi Saeid Safari

NOTABLE PROJECTS

- Leveraging reinforcement learning to find counterfactual graph edits that explain Graph Neural Network predictions
- Development of a decision fusion model that jointly exploits transfer and contrastive learning techniques to detect COVID-19 virus from X-ray images
- Development of a BERT-based encoder-decoder model that predicts whether a hypothesis sentence entails a conversational premise (conversation entailment) (achieved the second-best performance among EECS 595 final projects)
- Implementation of a Hidden Markov Model-based and a Recurrent Neural Network-based Part-of-Speech tagger
- Development a comprehensive Neural Network framework to train temporal / regular fully-connected, ReLU, convolutional, softmax, and max-pooling layers

PUBLICATIONS

- H. Mahdiani, A. Khadem, A. Ghanbari, M. Modarressi, F. Fattahi-Bayat, and M. Daneshtalab. ΔNN: Power-efficient neural network acceleration using differential weights. *IEEE Micro*, 2020.
- [2] B. Moon, **F. Fatahi-Bayat**, S. Nair, and A. Slaughter. Challenges for introducing artificial intelligence to improve the efficiency of a next generation assessment approach. *eLearn Magazine*, ACM, 2021.
- [3] **F. Fatahi-Bayat**, N. Bhutani, and H. V. Jagadish. CompactIE: Compact Facts in Open Information Extraction. *NAACL-HLT*, 2022.