

Farima Fatahi Bayat

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EDUCATION

UNIVERSITY OF MICHIGAN
 PH.D. IN COMPUTER SCIENCE
 2020-Present | Ann Arbor, MI, USA
 Advisor: H. V. Jagadish
 Cum. GPA: 3.91/4.0

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

COURSEWORK

GRADUATE

Machine Learning
 Natural Language Processing
 Database Management Systems
 Algorithms

UNDERGRADUATE

Theory of Formal Language and Automata
 Real-Time and Embedded Systems
 Parallel Programming
 Data Transmission

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

Website | 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 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 a 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 2018 Operating Systems

Mehdi Kargahi

Fall 2018 Computer-Aided Digital System Design

Mehdi Modarressi

Winter 2017 Computer Architecture/ Computer Architecture Lab

Saeid Safari

NOTABLE PROJECTS

- Development of a decision fusion model that jointly exploits transfer learning (pre-trained CNN models) and contrastive learning (Siamese Neural network) techniques to detect the existence of COVID-19 virus from chest 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
- Implementation of the forward and backward pass of the following neural network layers from scratch: (temporal/regular) fully-connected layer, ReLU, convolutional layer, softmax loss layer, and max-pooling layer; combinations of layers have been used to build image classification and image captioning models
- Implementation of Atalk (course-defined programming language) Compiler for compiling an asynchronous actor-oriented programming language

PUBLICATIONS

[1] H. Mahdiani, A. Khadem, A. Ghanbari, M. Modarressi, **F. Fattahi-Bayat**, and M. Daneshlab. Δ NN: Power-efficient neural network acceleration using differential weights. *IEEE Micro*, 40(1):67–74, 2020.

[2] **F. Fatahi-Bayat**, N. Bhutani, and H. V. Jagadish. CompactIE: Compact Facts in Open Information Extraction. *60th Annual Meeting of the Association for Computational Linguistics Conference, 2022* (submitted).