Ahmad Pourihosseini

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EXPERIENCE

Backend Software Engineer   Mar 2023 – Present
BlueCat - Toronto, ON, Canada

- Developing and enhancing backend features in the core DDI (DNS, DHCP, IP Management) product, written in Java & C++.
- Actively involved in the migration from Hibernate 5 to 6, working deeply in the persistence layer to address relevant issues.
- Led the transition from PowerMock to Mockito 5, improving the overall quality of the suite of unit tests.
- Pitched and Implemented a web-based dashboard, enhancing a critical workflow and receiving company-wide positive feedback.

Machine Learning & NLP Research Intern   May 2022 – Mar 2023
Samsung AI Centre - Toronto, ON, Canada

- Implemented and optimized advanced NLP algorithms, improving the state-of-the-art dependency parser in the cooking domain by 7.8 F1 scores in edge prediction, using PyTorch, HuggingFace, and AllenNLP. (repository)
- Utilized data visualization tools to find common error patterns in model predictions and conducted extensive experiments involving fine-tuning transformer-based large language models (LLMs), including BERT and BART.
- Co-authored, "End-to-end Parsing of Procedural Text into Flow Graphs", Proceedings of LREC-COLING 2024.

Machine Learning Research Assistant   Feb 2019 – Feb 2020
Machine Learning and Computational Modeling Lab at the University of Tehran - Tehran, Iran

- Developed and implemented a novel adversarial perturbation generation technique to improve the output diversity of the state-of-the-art generator in its specific attack category, using PyTorch and fast.ai.
- Demonstrated the technique's transferability through numerous experiments on ImageNet, ResNet, and VGGNet architectures.

Backend Web Developer   Jun 2017 – Sep 2017
Boghche - Tehran, Iran

- Developed a new alternative channel to register customer orders, using the MERN tech stack and the company's REST API, outperforming the native apps in customer engagement.

EDUCATION

MSc in Applied Computing [GPA 4.0]   Sep 2021 – Jun 2023
University of Toronto, Department of Computer Science - Toronto, ON, Canada

- Specialized in natural language processing, with two courses on the subject and two in machine learning foundations.

BSc in Computer Software Engineering [GPA 3.97]   Sep 2015 – Feb 2020
University of Tehran, Department of Software Engineering - Tehran, Iran

- Ranked 1st among all 110 computer engineering students.
- Rigorous coursework in data structures, algorithms, operating systems, and computer architecture as part of the core curriculum.

RELEVANT PROJECTS

Tab Renamer Chrome Extension - Personal Project   Winter 2024
A Chrome extension to rename and customize the favicon of your tabs for better organization and productivity, with more than 500 users and eight 5-star ratings. Built with Javascript, React, using Jest, Selenium Chrome Driver, and GitHub Actions for testing and CI. (chrome web store listing, repository)

Automatic Library of Congress Classification - Introduction to Machine Learning Course   Fall 2021
Collaborated with a team of three to apply machine learning techniques, such as word embeddings and sequential models, to enhance Library of Congress record classification performance by leveraging previously unused data (repository).

NotMNIST Classifier without AutoGrad - Artificial Intelligence Course   Winter 2018
A neural network classifier for the notMNIST dataset, built from scratch with no automatic differentiation libraries (repository).

TECHNICAL SKILLS

- Machine Learning Libraries: PyTorch, Scikit-learn, HuggingFace, NumPy, Pandas, Matplotlib, Tensorflow, NLTK
- Web Development Technologies: HTML, CSS, Node.js, React, MongoDB, SQL, REST APIs
- Programming Languages: Python, JavaScript, Typescript, Java, C/C++, Groovy
- DevOps & Build Tools: Jenkins, Gradle, Maven, GitHub Actions

AWARDS

- Vector Scholarship in Artificial Intelligence, Vector Institute, $17,500   **May 2021**
- Faculty of Engineering Award (FOE), University of Tehran   **2016, 2017, 2018**
- Ranked Top 0.3% in the Nationwide University Entrance Exam among 167,000 participants   **Jul 2015**