

Amirreza Shamsolhodaei

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SUMMARY

- **Master's graduate in CS** from the **University of Waterloo** with experience in **data science**.
- Proficient in **Python**, **R**, and **SQL**, and experienced in managing dependencies, virtual environments, and **Git**.
- Demonstrated expertise using machine learning libraries and frameworks such as **PyTorch**, **scikit-learn**, and Hugging Face.
- Strong **data manipulation**, analysis, and **visualization** skills, using tools like **Pandas**, **NumPy**, and **Matplotlib**.
- Demonstrated expertise in **NLP**, **Computer Vision**, and **generative AI** and **image processing**.
- Adept in **text preprocessing**, **tokenization**, and understanding of **word embeddings**.

TECHNICAL SKILLS

Languages: Python, SQL, JavaScript, R

Technologies: Unix, REST, Git, Docker

Frameworks: PyTorch, Keras, React.js

EDUCATION

- **University of Waterloo** Waterloo, Canada
Master of Mathematics in Computer Science (GPA: 4.0) Sep 2022 – Apr 2024
- **Azad University of South Tehran** Tehran, Iran
Bachelor of Science in Software Engineering (GPA: 3.6) Sep 2015 – Jul 2021

EXPERIENCE

- **Researcher** Waterloo, Canada
University of Waterloo Sep 2022, Apr 2024
 - Built a **dev tool** that increased code change acceptance through analysis of **pull request rejections**.
 - Extracted and categorized **2.5 million** pull request characteristics using GitHub's **REST API**.
 - Conducted a comprehensive qualitative analysis of over **15,000 pull requests**, to identify key rejection factors.
 - Developed logistic regression models to **quantitatively analyze** reasons for pull request rejections.
 - Implemented a **BERT-based NLP framework** to categorize and understand the nuances of pull request rejections.
- **Software Developer** Tehran, Iran
Safe Rope Access Jun 2015, Sep 2017
 - Collaborated in developing a responsive website using **JavaScript** and **Bootstrap**, with **over 1000 monthly viewers**.
 - Developed a **Python bot** for Telegram, to improve customer engagement and support.
 - Setup and managed the company's **network infrastructure**, enhancing overall digital operations.

PROJECTS

- **ETHGlobal Hackathon** 2023
 - Implemented an anonymous employee referral system using the **Polygon blockchain**, enabling peer recommendations.
 - **Won the NEAR Prize** for the Best Use of Blockchain Operating System.
- **Gender Diversity in Open Source Software** 2023
 - Conducted a **comprehensive analysis** of over 3.5 million GitHub pull requests, assessing gender diversity in OSS projects.
 - Employed ML techniques like **Random Forest**, **SVM**, and **DNN**, achieving notable findings in gender diversity analysis.
- **Analyzing Human Values in UI/UX Design** 2023
 - Designed NeuroBod, a conceptual tech, focusing on psychological and philosophical **human values in tech innovation**.
 - Enabled a seamless interface with human-centric design principles by utilizing Figma for **the UI/UX development**.
- **Security Analysis of Online App Generators in Android** 2022
 - Performed an in-depth **security analysis** of three Android applications generated using online app generators.
 - Identified key **security weaknesses** in the generated applications, highlighting areas of concern in OAGs.
 - Developed custom benchmark applications using **Kotlin**, aimed at providing a standard for comparative security analysis.
- **Face Recognition using Convolutional Neural Network** 2021
 - Conducted a comparative analysis of various **CNN models using Keras** for face recognition.
 - Achieving 91%-95% accuracy, demonstrating the effectiveness of **neural networks in computer vision**.