SHAYAN HASHEMI

Data Scientist

CONTACT

Oulu, Finland

shshemi@gmail.com

github.com/shshemi

SKILLS

Data Science 6+ yrs

Software Dev 4+ yrs

Embedded Dev 2+ yrs

Data Science & Machine Learning

Pytorch, Tensorflow, Scikit Learn, PyCaret, Numpy, Pandas, Scipy, Seaborn, Matplotlib, Streamlit, NLTK, Spacy, Disco, PM4PY, SQL

Web & Mobile

Android Development, iOS Development, Flask, Fast API, Django, Web Assembly

Programming Languages

Python, Rust, C/C++, Java, Swift, Objective-C, Lua

Cloud Technologies

Azure, Docker

Miscellaneous

Git, Linux, Bash, Network, Network Security, System Programming, Buildroot

WORK EXPERIENCE

Data Scientist Aug 23 - Now

Outokumpu

As a Data Scientist, I honed my skills in exploratory data science, uncovering insights from data and developing models that facilitated decision-making for the business. Furthermore, I participated in the training and deploying machine learning models while ensuring their effective integration into business processes. During this time, my contributions were comprised of:

- Discovering trends, identifying correlations, and deriving insights from various data sources
- Training, deploying, and developing software for production-ready ML systems
- Applying best DevOps and MLOps practices

Technologies include:

- Machine learning libraries such as Ultralytics YOLO, PyCaret, and Scikit-learn
- Data exploration and visualization tools and libraries including Pandas, Matplotlib, Seaborn, SQL, and Jupyter Notebooks.
- Cloud technologies like Azures' Machine Learning Studio, Function App, App Service, SQL Database, Storage, and Containers alongside Docker.
- Azure DevOps for hosting code repositories and applying agile practices.

Achievements include:

- Defect detection system for coil surface inspection
- Energy prediction for materials going into the furnace
- Design and Implement a platform that facilitates exploration, training, evaluation, and deployment of machine learning projects
- Design and implement a Retrieval-augmented Generation (RAG) PoC

AI Researcher Sep 20 - Jul 23

University of Oulu

As an Artificial Intelligence (AI) researcher, I worked on utilizing machine learning and deep learning methods on software logs to provide further assistance and insight for software engineers, developers, and operators. My field of focus was detecting anomalous software behaviors in past logs and predicting future anomalies.

EDUCATION

2020 - Present

Ph.D. Information Processing Science.
University of Oulu, Finland

The main subject of my doctoral studies is detecting software log anomalies using machine learning methods. In addition to that, I participated in funding applications, assisting the teacher, and producing course materials for graduate-level courses.

2016 - 2019

M.Sc. Computer Software Engineering
Isfahan University of Technology, Iran

Alongside my graduate studies, I researched the Visual Question Answering subject, which was also the subject of my thesis. My thesis received the maximum score from the opponents.

2010 - 2016

B.Sc. Computer Software Engineering
Azad University, Iran

Besides my studies and courses, I focused on implementing double side markets, which join producers to customers online. I received the maximum score from supervisors in my internship and final project

- Design and implement machine/deep learning models
- Utilize string algorithms for efficient text parsing and structuring
- Design and produce concise benchmarks for existing algorithms
- Employ process mining methods to extract user and software behaviors
- Participate in four funding applications in Finland and Europe
- Teaching assistance and course material preparation

Technologies include:

- Python ML libraries such as PyTorch, Tensorflow, Scikit-learn, Pandas, Numpy, and Scipy
- High-performance programming using Rust
- Process mining tools such as Disco, ProM, and PM4PY

Achievements include:

- Journal publication in Automated Software Engineering (AuSE): **S. Hashemi** and M. Mäntylä, "SiaLog: Detecting Anomalies in Software Execution Logs using the Siamese Network" [Link]
- Journal publication in Automated Software Engineering (AuSE): **S. Hashemi** and M. Mäntylä, "OneLog: Towards End-to-end Software Log Anomaly Detection"
- Conference publication in Mining Software Repositories (SANER): **S. Hashemi** and M. Mäntylä, "LogPM: Concise and large scale datasets for log parser benchmarking"

Senior Software Engineer Mar 15 - Aug 16
Betternet Technologies

My working period in Betternet Technologies is divided into three sections. During the first section, I filled the role of a software engineer in the mobile app development team (Android and iOS). We developed and maintained Betternet apps for iOS, Android, Windows, and macOS alongside the Chrome extension. In the second period, I participated in designing and implementing a new Virtual Private Network (VPN) protocol named "Hexatech", which was safe, unblockable, and computationally efficient. Throughout the rest, I functioned as an embedded software engineer in the smart router team. During that period, we designed and developed a smart VPN router named "Betterspot".

- Develop Betternet and Hexatech Android application
- Develop Betternet iOS application
- Design and implement Hexatech VPN protocol
- Develop Betterspot smart VPN router software

Technologies include:

- Android development using Java, NDK, and C++
- iOS development using Objective-C and Swift
- Network programming in Linux using C/C++.
- Embedded Linux development using OpenWRT, C/C++, Shell Script, and Lua

CERTIFICATES

Natural Language Processing

Higher School of Economy

Process Mining: Data science in Action

Eindhoven University of Technology

Deep Learning Specialization

Deeplearning.ai

Sequence, Time Series, and Prediction

Deeplearning.ai

Natural Language Processing with Sequence Models

Deeplearning.ai

Natural Language Processing in Tensorflow

Deeplearning.ai

OTHER PUBLICATIONS

Multiple answers to a question: a new approach for visual question answering

S. Hashemi, M. Safayani, and A. Mirazyi – [Link]

Pinpointing Anomaly Events in Logs from Stability Testing – N-Grams vs. Deep-Learning

M. Mäntylä, M. Varela; **S. Hashemi** – [Link]

Achievements include:

- The Betternet app serves thousands of users daily
- The Hexatech app became the first AppStore trending VPN in multiple countries
- The Betterpot router sold over $400,000 globally during its Kickstarter and Indiegogo campaigns

Software Engineer Jan 13 - Jan 14
Zana Game Studio

In the Zana Game Studio, I worked as an Android Developer. During this time, we developed multiple applications for private customers and Android plugins for the Unity Game Engine.

- Develop multiple Android applications
- Develop an in-app purchase Unity plugin for CafeBazzar, an Iranian Android application store

Technologies include:

- Android development using Java
- Unity Game Engine plugin development using Java and C#

Achievements include:

- Android applications served hundreds of Iranian users daily

Software Engineer Jun 10 - Oct 12
BASA Co

During the BASA Co working period, I served as Web Developer and worked on multiple projects.

- Develop multiple Liferay-based portlets
- Develop BASA Co website

Technologies include:

- Server-side development using Java, Swing, and JSF
- Version controllers such as Git and Tortoise Svn.
- Linux server administration
- MySQL database
- Web development using PHP, HTML, and Javascript

Achievements include:

- Isfahan province portal won the province portal of the year award in Iran
- BASA Co website served users for six years

AI & Software Engineer
Various Employers

Freelance

I also participated in multiple freelance projects. Some as a team member while undertaking the project all by myself in others.

- Persian Spam Detection: A machine learning system that detects spam emails in the Persian language
- Zistyar: An application that helps users trade their recyclable garbage with industrial recyclers
- Zangoole: A marketplace for creators to sell their Ringtones
- Vasyab: A marketplace for content providers to sell their Value Added Services (VAS)

Technologies include:

- Machine learning development using Python, Tensorflow, and Scikit-learn
- Android development using Java
- RestAPI development using Python, Django, Postgres SQL
- Web development using PHP, HTML, Javascript, and MySQL

Achievements include:

- Zistar Achieved the sustainable startup of the year award in Iran