Hüseyin ABANOZ

There is a better way than reading resumes: Chat with My Personal AI Assistant: Steward

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Contact Information

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- **Huggingface**: https://huggingface.co/habanoz
- **Blog**: https://habanoz.github.io/tech-feed/

Summary

Experienced software engineer with 10+ years of hands-on experience. Java (OCP) and Python coder.

Worked in the telecommunications industry for a decade developing large-scale highly available software solutions.

Strong foundation in Software Design, Object Oriented Programming, Functional Programming, Data Structures, and Algorithms. Focused on producing efficient code that is easy to understand, verify, and modify. Adherence to clean coding principles that enhance quality and readability.

He has master's degree in Machine Learning. He is interested in Deep Learning, Reinforcement Learning, and Large Language Models. Currently, he follows the latest research and developments in the NLP field to build practical systems.

He loves developing software, Artificial Intelligence and following recent developments.

Check out his blog and GitHub profile for his latest works.

Keywords: Parallel, Distributed and Asynchronous Computing, RDBMS, Clean Coding, Deep Learning, Deep Reinforcement Learning, Generative AI, Large Language Models, Chatbots, Open Source Software

Experiences

Founder of habanoz.io

- **Company**: habanoz.io
- **Period**: November 2023 - July 2024
- **Activities**:
    - Language Model Fine-tuning. Fine-tuned several variants of tiny-llama model. Model weights are accessible in HuggingFace.

    - Development of Steward. Steward is a chatbot application that is programmed to serve as a professional AI assistant. It uses user CVs to generate answers.
    - Development of Mike. Mike is a local AI assistant application designed to improve productivity. Mike uses user files and Web Search to improve its answers. Mike can see images. Mike can use code models for coding tasks.
    - Development of Duke. Duke is an AI assistant application developed to study the use of Java and Spring Boot to develop AI assistant applications.
    - Development of Chatbots that generate answers based on customer knowledge bases.

Software Engineer at i2i Systems

- **Company**: i2i Systems
- **Period**: From May 2018 - Jun 2022
- **Responsibilities**: Owned the design and development of Charging System and 5G Core components. The development of large-scale, performance-sensitive, and highly available systems was a key role.
- **Activities**:
    - **RECF Microservice**: Designed and developed a microservice for recurring billing and charging operations was designed and developed. This microservice, responsible for refreshing recurring packages of post-paid and pre-paid customers, handles the processing of millions of customer accounts daily. The microservice application was based on Java (17) and Spring Boot. The microservice application utilized the Akka framework for asynchronous processing. Oracle 12G and JDBC was utilized in the persistence layer. A clustering solution based on Akka Clustering was employed to enable multiple instances to run in parallel for load sharing and high availability. The microservice was designed to continue serving even in the most extreme scenarios and was geographically distributed to ensure service continuity in the event of a catastrophe at a data center. Kafka was used for both publishing and subscribing. The microservice was designed as a part of a larger online charging system which was developed by a large team of developers, testers and analysts which co-operated using scrum methodology.
    - **NSSF Microservice**: Designed and developed a microservice for the 5G network slice selection function (NSSF). Network slicing feature in 5G terminology allows the creation of multiple logical networks on top of a common shared physical network, essentially segmenting parts of the network for different users and/or use cases. The NSSF microservice facilitates the selection of the most appropriate slice for the user equipment (UE). The microservice application was based on Java (17) and Spring Boot. The microservice utilized the Akka framework for asynchronous processing. Hazelcast in-memory data grid solution was used as a distributed near cache. The microservice endpoints were designed in accordance with OpenAPI Specification Files and 5G Core Network specification files published by the 3GPP consortium.

Software Engineer at Nokia

- **Company**: Nokia
- **Period**: Jan 2016 - May 2018
- **Role**: Design and Development of Operational Support System (OSS) applications for the Telecommunications industry.
- **Activities**: Development of various Java and Spring-based applications.

SCCD Consultant

- **Period**: Jul 2017 - Dec 2017
- **Company**: Network Rail, UK
- **Role**: SCCD Consultancy services for NRT, an international on-site assignment by Nokia.

Software Engineer at Alcatel-Lucent

- **Company**: Alcatel-Lucent
- **Period**: Jul 2010 - Jan 2016
- **Role**: Development and Integration of Operational Support System (OSS) applications for Telecommunications industry.
- **Activities**:
    - **IVR Application**: An application was designed and developed using Java and Spring that employs the SIP protocol to initiate bulk calls to subscribers for announcements and marketing campaigns. The application also collected user responses in the form of phone digit pressing and reported them. JDBC and MySQL were utilized in the persistence layer.
    - **Web-Applications**: Development of various Java and JSF-based web applications.
    - **Integration-Applications**: Development of various Java and Spring Boot-based integration applications. Integrations involved file exports, database synchronizations, and exposing and consuming web services (including SOAP and REST endpoints). Some RDBMS used are MySQL, PostgreSQL, Oracle, and DB2. Hibernate is used mainly in the persistence layer.

Education

1- Istanbul Technical University

- Period: 2015 - 2018
- Programme: Master's Degree, Machine Learning

2- Marmara University

- Period: 2005 - 2010
- Programme: Bachelor's Degree, Computer Science and Engineering

Licenses & Certifications

1- Oracle Certified Associate, Java SE 7 Programmer

2- Oracle Certified Professional, Java SE 7 Programmer

Achievements

Grant by Tezos Foundation at 2020

- **Summary**: Tezos is a blockchain protocol. The Tezos Foundation stands as part of the community in support of the Tezos protocol and ecosystem. The foundation funds selected projects. Tezos Reward Distributor (TRD) authored by Hüseyin ABANOZ was given a grant to support development.
- **Github**: https://github.com/tezos-reward-distributor-organization/tezos-reward-distributor

Top-Rated Professional on Upwork at 2024

- **Summary**: Gained Top-Rated badge in Upwork platform.
- **Profile**: https://www.upwork.com/freelancers/~01dd00e190744b256c

Publication

Research Papers

Emotion recognition on static images using deep transfer learning and ensembling

- **Research**: This research was part of Master's Degree graduation study. Involved utilization of CNN's for image classification task.
- **Authors**: Hüseyin ABANOZ
- **Abstract**: Emotion recognition may be useful in any area where human and computer interacts. CNNs are known to be good at computer vision tasks. However, CNNs are difficult to train, especially when the amount of data and computation power is limited. Transfer learning emerges as a cheap and efficient way of making use of pre-trained CNN classifiers. Our work has two contributions. Firstly, different CNN architectures and models trained using different datasets are investigated to find a suitable model to use in emotion recognition. Secondly, expert models for each emotion are trained. The Base model is ensembled with expert models to create a better classifier. Experiments show that our use of ensembling together with transfer learning helps to create a good classifier. Final classifier shows 68.32% accuracy on FER13 validation set.
- **Published In**: 2018 26th Signal Processing and Communications Applications Conference (SIU)
- **Year**: 2018

Skills

- Java & Python
- Web Services
- Relational Database Programming
- Object Oriented and Functional Programming
- Backend Development
- Distributed, Asynchronous and Parallel Programming
- Financial services, stock exchange integration, Algorithmic Trading
- Pytorch, Deep Learning
- Training Convolutional Neural Networks (CNN)
- Reinforcement Learning (RL), Deep Reinforcement Learning (DRL)
- LLM Training, Deployment, Fine-tuning
- ChatBot Development, Retrieval Augmented Generation (RAG), Prompt Engineering, Agents