Ali Shahed

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Summary

A seasoned Principal Machine Learning Engineer with a Ph.D. in Electrical Engineering and over 7 years of experience in the design, implementation, and deployment of various Machine Learning models. Expertise in Natural Language Processing (NLP), Large Language Models (LLM), Deep Learning, and cloud-based ML technologies. Proven ability to drive the complete lifecycle of model development, from data collection to deployment.

Experience

Founder Engineer

Stealth Mode

Jan 2023 - Present (1 year)

Developed two consumer products leveraging Large Language Models (LLM), both ChatGPT API and open source models, driving the full model development lifecycle from inception to production.
Utilized deep learning techniques and NLP to enhance product efficiency and performance.
Managed cloud-based ML technologies for scalable model deployment and maintenance.
Collaborated with cross-functional teams, ensuring alignment of ML strategies with overall business objectives.

Principal Engineer

Delart @ Meta

Nov 2021 - Jan 2023 (1 year 3 months)

Developed and implemented link-level simulations for 5GNR, leveraging machine learning approaches such as decision tree regression and K-nearest neighbor.
Contributed to system level simulation development, leading to strategic proposals for 3GPP WG4.
Utilized Python and SQL for data analysis and model implementation.

Principal Data Scientist

Freedom Financial Network

Jan 2020 - Dec 2021 (2 years)

Leveraged analytical skills to evaluate, understand, and interpret credit bureau data across all phases of the consumer credit lifecycle.
Supported the development of new analytical and data products and services, aligning with business objectives and making recommendations on machine-learned-based solutions.
Communicated with end-users on model deployment and monitoring results, including delivering presentations.

Machine Learning Engineer

Asurion

Mar 2018 - Jan 2020 (1 year 11 months)

Machine Learning-Based Network Attack Detection: Implemented a passive machine learning model to detect abnormal behaviors in WiFi networks, showcasing analytical skills to evaluate and interpret data.
R&D Leadership in WiFi Networks: Headed the R&D effort on device discovery and operation mode classification using sequential Neural Networks (RNN and LSTM), demonstrating expertise in the latest techniques and methodologies.
Data Science & ML Research: Led the data science and ML research in the Smart Home initiative, optimizing existing algorithms and developing new ones to improve processing time.
Data Insight Bulletin & Dashboard: Designed and implemented weekly data insight bulletins and data dashboards for Smart Home pilot customers, serving as an internal SME in Python coding.
POC Binary Classifier Development: Implemented a POC binary classifier that doubled the take-rate of Smart Home contracts, reflecting experience in solving challenging business problems with significant impact.

Machine Learning Engineer

Protagonist

Jan 2017 - Jan 2018 (1 year 1 month)

• Designed and implemented a sentence clustering pipeline including sentence similarity algorithm, leveraging word2vec and unsupervised clustering algorithm.
• Implemented ML-assisted query building scheme to improve analyst efficiency. This method utilizes topic modeling, e.g. Latent Dirichlet Allocation (LDA), to enable one explore the topics span by the relevant documents at any stages of query building. This pipeline helped our analyst to finalized their queries with 10X speed compare to the only-human method.
• Developed a semi-supervised clustering/ Community detection pipeline to enable the analyst to explore a large corpus of documents and discover topic/narrative landscape which is spanned by the said corpus.
• Developing classification schemes based on Support Vector Machine and Naive Bayes in order to classify the documents in a corpus based on the analyst assigned labels.
• Designing and implementing an anomaly detection algorithm, which is used by the analysts to detect abnormal social media metrics, such as number shares, likes, and comments, inside a corpus.

Machine Learning and Artificial Intelligence Engineer

Entefy

May 2016 - Dec 2016 (8 months)

• Optimized the keyword search for NoSQL database (Elasticsearch), including designing various filters, tokenizers and analyzers
• Conducted research on ML applications on search results personalization/optimization (Learn-to-Rank)
• Spear-headed efforts for development of algorithms in Natural Language processing for search query translation
• Design and implementation of a Viterbi algorithm-inspired spell-checker for natural query translator
• Design and implementation of ML algorithms for correction of real-word query misspellings.
• Collaborated in test and development of computer vision (CV) algorithms.

Senior communications system engineer

MaxLinear

Nov 2013 - Apr 2016 (2 years 6 months)

• Carried out the design of various DFE blocks, from architecture design to chip bring up. Including:

Variants of digital pre-distortion (DPD) for different wired/wireless transmitters. These designs are being incorporated in the final chip designs and, depending on the application, improves the efficiency of the implemented power amplifier between 15-30%
Efficient and flexible variable rate re-sampler to maintain constant sampling rate of the output with variable baud-rate of input signal.
• Automatic gain control design for cable modem receiver.
Digital interference cancellation scheme to improve the linearity of a wireless receiver. This scheme first was proposed in [4].
• Interaction with ASIC engineers in design and verification both in block and system level. Develop and perform FPGA verification tests for the deigned blocks/systems. Also Involve in the line-up analysis for multiple chips with system engineers
• Attended meetings with customers and suppliers
• Three Salary increase and promotion to Senior staff position in 2.5 years for exceptional performance.

Visiting Scholar/Postdoc
UCLA
Nov 2011 - Nov 2013 (2 years 1 month)
Analyzed the effects of various RF front-end non-idealities on the performance of energy-based and cyclostationary-based spectrum sensing and signal classification algorithms in cognitive radio application and explored the algorithms to compensate these effects. These activities were organized as a joint project between department of communications engineering, TUT, and Cognitive Reconfigurable Embedded Systems (CORES) Laboratory, UCLA, under supervision of Prof. Danijela Cabric.

Education

Tampere University
PhD, EE (Telecommunication)
2005 - 2011

Tampere University
MSc, EE (Signal processing)
2002 - 2004
Tampere University of Technology, Tampere, Finland
Major: Signal processing, Minor: Communication engineering
Thesis Title: “Farrow Structure with Odd Length Subfilters in Fractional Sampling Rate Conversion”
Supervisors: 1) Prof. Markku Renfors 2) Prof. Tapio Saramäki

Licenses & Certifications

Neural Networks and Deep Learning - Coursera
GVR26H99XZF6

Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization - Coursera

4NALCM88GF8T

Structuring Machine Learning Projects - Coursera
UX6GP277JMYD

edX Verified Certificate for Technology Entrepreneurship and Small Business Creation - edX
2b9d414e6c7f40d188b7e2d233caf047

edX Verified Certificate for Large Language Models: Application through Production - edX
336235a329ec45c883a07679332cce1d

Skills

Fine Tuning • Large Language Models (LLM) • Hyperparameter Tuning • Artificial Intelligence (AI) • PyTorch • TensorFlow • Scikit-Learn • Python (Programming Language) • Amazon Web Services (AWS) • Google Cloud Platform (GCP)