

ALI SHIBLI

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PROFESSIONAL EXPERIENCE

Data Scientist

February 2022 - Present

Ericsson, Global AI Accelerator

Stockholm, SE

- Spearheaded a breakthrough in time series prediction developing an innovative scheduling system for telecom operations. This solution is in strategic planning for integration within Ericsson hardware due to its potential market value.
- Led the development of a language modelling project, where I designed a QA system for telecom operators using state-of-the-art models such as GPT, BERT, and Falcon, emphasizing the capability to handle unique language structures and data sources.
- Collaboratively pioneered "RLDevOps" initiative, a scalable reinforcement learning framework adaptable to different hyperscalers including Google Cloud Platform.
- Successfully filed 3 patent applications within the first year, with 2 additional applications currently under review. The patents encompass advancements in computer vision, satellite imagery, graph networks, and time series forecasting for telecom.

Machine Learning Mentor

November 2021 - January 2022

KTH, [PECA Project](#)

Stockholm, SE

- Designed machine learning workshops, facilitating the AI upskilling of more than 30 engineers, including python notebooks and well-prepared material covering the basics to advanced topics in AI, as an initiative to support life-long learning of AI for individuals from different backgrounds.

Data Scientist Intern

June 2021 – September 2021

Ericsson, Global AI Accelerator

Stockholm, SE

- Developed and integrated a QA recommendation system within the internal Ericsson's communication network using BERT-based models.
- Trained and benchmarked several state-of-the-art Natural Language Processing BERT-based models, in addition to developing the [Telecom Question Answering Dataset \(TeleQuAD\)](#).

Machine Learning Research Engineer

November 2020 - April 2021

KTH, [Robotics, Perception, and Learning LAB](#)

Stockholm, SE

- Conceptualized and developed a novel approach to visual relationship detection using graph neural networks. Employed CNN-based models for object detection, which formed the nodes, and text-based relationships as the edges of the graph.
- Cultivated a deeper understanding of the complexities and challenges associated with relationship detection in images, which provided valuable insights despite not achieving state-of-the-art results.
- Designed, developed, and released the [image-caption-scraper](#) python package to aid researchers in web scraping images with captions. The tool, aimed at facilitating training in computer vision and NLP, has been leveraged by over 4,500 individuals, highlighting its practical relevance in the research community.

Network Engineer Intern

June 2019 - August 2019

[Touch Telecom](#)

Beirut, LBN

- Engaged in comprehensive troubleshooting and analytical assessments to identify and rectify cellular network issues, emphasizing data-driven decision-making.
- Utilized detailed data acquired from on-site measurements and drive tests to provide insights into hardware malfunctions, enhancing my capabilities in working with real-world data sets and understanding their practical implications.

EDUCATION

Master of Science, Machine Learning

2020-2022

KTH Royal Institute of Technology

- **Thesis** ([link](#)): developed a multi-modal deep learning model for forecasting cellular network traffic using time series and computer vision modelling.
- Served as Teaching Assistant for [Artificial Intelligence](#).

Bachelor of Engineering, Computer and Communications Engineering

2015 - 2020

American University of Beirut

- **Thesis** ([link](#)): developed an autonomous drone based on computer vision algorithm to monitor the health of pine trees. The project was awarded the best final year project of 2019 of the engineering batch.

Bachelor of Science, Mathematics

2016 - 2020

American University of Beirut

- Served as Teaching Assistant for [Higher Geometry](#).

SELECTED PROJECTS

- **Recommendation Engine:** Built a multi-input tool to search and recommend movies from Netflix, songs from Spotify, and books from GoodReads, by developing a hybrid neural network model based on collaborative filtering and content-based recommendation. It uses [SBERT](#) for embedding the meta-data of the user's preferences and [Neural Collaborative Filtering](#) for comparing with other similar users' tastes with deep learning. All the models were implemented and tested using PyTorch, PySpark, and boolean queries. The different models were trained on 3 datasets scraped from Netflix, Spotify, and GoodReads ([Link to repo](#)).
- **3D Gap Traversal for Drones:** Developed a system enabling drones to autonomously navigate through 3D gaps using a combination of computer vision models and distance estimation sensors. The project harnessed a vision model to interpret the gap as captured by the drone's camera and utilized ultrasonic sensors (or similar) to determine the gap's distance. This data-driven approach allowed for precise control, guiding the drone seamlessly through the identified gaps. The experience of integrating multiple systems for 3D spatial understanding and navigation directly aligns with challenges in 3D animation and motion generation ([Link to report](#)).

TECHNICAL SKILLS

Main Programming Languages	Python, Java, C++
Machine Learning Frameworks	PyTorch, TensorFlow
AI Domains	Computer Vision, NLP, Time Series, Recommender Systems, Explainable AI
3D Graphics:	Unity
Software Development	Git, Continuous Integration
Cloud and MLOps	GCP, AWS

AWARDS AND CERTIFICATIONS

- Karl Engver's Foundation Scholarship Award for Academic Excellence, Sweden 2021/2022.
- Hattrick award in AI course at KTH, Sweden 2020.
- First place on American University of Beirut IDEAS 2019 startup competition ([Link to article](#)).
- Dean's Honor List, AUB, 2019.

LANGUAGE SKILLS

Arabic: Native Speaker

English: Professional Proficiency

Swedish: Intermediate

