

# ALI SHIBLI

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## INDUSTRY AND RESEARCH EXPERIENCE

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### Data Scientist

Ericsson, Global AI Accelerator

February 2022 - Present

*Stockholm, SE*

- Developed machine learning pipelines for telecom-AI applications, focusing on network performance metrics.
- Worked collaboratively with stakeholders to develop RLOps, a Reinforcement Learning System using MLOps, for telecom applications.
- Led a team in developing predictive models for network nodes software upgrades scheduling. This is based on traffic pattern forecasting, resulting in improved network performance and significant reduced service impact.
- Filed 2 patents and a third in review related to ML methods adopted in telecom. The patents include topics in computer vision and satellite imagery, graph networks, and time series forecasting.

### Machine Learning Mentor

KTH, [PECA Project](#)

November 2021 - January 2022

*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

Ericsson, Global AI Accelerator

June 2021 – September 2021

*Stockholm, SE*

- Developed and integrated a Question-Answering Recommendation System within the internal Ericsson's communication network using Sentence-BERT.
- 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

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

November 2020 - April 2021

*Stockholm, SE*

- Researched and developed a graph neural network model for webly-supervised visual relationship detection in images and video. The model detects objects in images using a CNN that form the nodes of the graph, and the edges are the text relationships between the detected objects.
- Developed and released a python package [image-caption-scraper](#) for web scraping images with captions for training computer vision and NLP models. Over 3000 people have used it to the date.

### Network Engineer Intern

[Touch Telecom](#)

June 2019 - August 2019

*Beirut, LBN*

- Performed troubleshooting activities to analyze and resolve fault reports in the cellular network, by analyzing data acquired from the sites and drive tests to detect hardware issues.

## EDUCATION

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### Master of Science, Machine Learning

KTH Royal Institute of Technology

**2020-2022**

- [Thesis](#): “Hybrid Deep Learning Model for Cellular Network Traffic Prediction: Case Study using Telecom Time Series Data, Satellite Imagery, and Weather Data”
- Teaching Assistant: [Artificial Intelligence](#)

## Bachelor of Engineering, Computer and Communications Engineering

2015 - 2020

American University of Beirut

- [Thesis](#): The Utilization of Drones to Monitor the Health of Pine Trees
- Best Final Year Project of 2019 Engineering Batch

## Bachelor of Science, Mathematics

2016 - 2020

American University of Beirut

- Relevant coursework: Algebra and Differential Geometry.
- Teaching Assistant: [Higher Geometry](#)

## SELECTED PROJECTS

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- **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. You can find an example of the Netflix Recommender Engine [here](#).
- **Tree-D**: Developed an autonomous drone that navigates around trees detecting and shooting parasite nests with a high accuracy (85% in real time). The model was based on YOLOv3, and the project won the Best Final Year Engineering Project Award in my Bachelor's Degree in 2019. You can find a demo [here](#).
- **Lebanese Sports Pitches**: Developed a mobile app to search for and book sports pitches using Java, Android Studio, and Firebase for storage and analytics. The app was deployed on Android and was tested on 1000 virtual users to validate performance.

## SKILLS

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<b>Programming Languages</b>	Python, Java, C++
<b>Machine Learning Frameworks</b>	PyTorch, TensorFlow, Keras, NumPy, Scikit-learn, Pandas
<b>Computer Vision</b>	Image Processing, Detection, Classification, Segmentation, Satellite Imagery
<b>Natural Language Processing</b>	Text Preprocessing, Sentiment Analysis, NER, Language Modeling
<b>Distributed Computing</b>	Apache Spark, Hadoop, Parallel Computing
<b>Statistical Analysis</b>	Hypothesis Testing, Statistical Modeling, Experimental Design
<b>Software Development</b>	Git, Software Engineering Principles
<b>Data Visualization</b>	Matplotlib, Seaborn, Tableau
<b>Cloud and MLOps</b>	GCP, AWS

## AWARDS AND CERTIFICATIONS

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- 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 ([article on Tree-D Project](#)), Lebanon 2019.
- Dean's Honor List, AUB.

## LANGUAGE SKILLS

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**Arabic**: Native Speaker

**English**: Professional Proficiency

**Swedish**: Intermediate

