CAN YILMAZ ALTINIGNE

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EDUCATION

Ecole Polytechnique Federale de Lausanne (EPFL) *September 2018 - June 2020*
M.Sc. in Computer Science GPA: 5.1 / 6
Lausanne, Switzerland

- Student Assistant for Applied Data Analysis course given by Prof. Robert West in Fall 2019 (nearly 360 students).
- Grading and preparing homeworks, mentoring and grading course projects.

Istanbul Technical University *September 2013 - June 2018*
B.Sc. in Computer Engineering GPA: 3.72 / 4
Istanbul, Turkey

- Graduated with the highest GPA in the Department of Computer Engineering.

LANGUAGES

Turkish Mother tongue
English C1 Level - TOEFL Score: 102 (September 2017)

WORK EXPERIENCE

◇ **AXA Advanced Engineering Lab** July 2019 - September 2019
Data Scientist Intern *Lausanne, Switzerland*

· Worked on the impact evaluation of floods and earthquakes on buildings and roads by applying image segmentation on pre and post-disaster aerial images using D-LinkNet and Resnet U-Net architectures.

· Increased the mean IoU of road segmentation model from 0.60 to 0.62 using D-LinkNet with Pixel Deconvolution layers (Top 20 in DeepGlobe Road Extraction Challenge) and the mean IoU of building segmentation model from 0.68 to 0.75 using Resnet U-Net with Squeeze and Excitation layers (Top 20 in INRIA Aerial Image Labeling Challenge).

Technologies used: TensorFlow, OpenCV, Numpy, QGIS

◇ **CERN** June 2017 - August 2017
Software Engineer Intern *Geneva, Switzerland*

· Worked on the front-end part of the new web portal for the CERN's DB on Demand service.

Technologies used: Angular 2, PostgreSQL, Karma, Jasmine

◇ **ASELSAN** June 2016 - July 2016
Software Engineer Intern *Ankara, Turkey*

· Implemented an augmented reality application which shows the locations of different types of watercrafts with respect to a specific ship on the electro-optical camera view.

Technologies used: Java, JavaCV, OpenCV, FFmpeg

ENGINEERING SKILLS

Programming Languages	Python, C, C++, Javascript, Java, R, HTML, CSS
Libraries & Frameworks	PyTorch, Keras, Tensorflow, Scikit-Learn, Pandas, Numpy Scipy, OpenCV, NodeJS, Angular, Flask
Database	MySQL, PostgreSQL

RESEARCH EXPERIENCE

◇ **EPFL Computer Vision Lab** September 2019 - Present

· Working on self-supervised training of multi-object proposal-based segmentation at EPFL CVLab. Implementing several edge losses and integrating Gumbel-Softmax into proposal-based training.

Technologies used: PyTorch and OpenCV.

◇ **Swiss Data Science Center** February 2019 - Present

· Implemented a combined network to find accurate human pose segmentation masks and joint locations on human body concurrently and compared the performance of U-Net and Harmonic Networks for this task.

· Estimated human weights and heights from full body single-person images using the combined network. Currently working on semantic segmentation with very noisy labels.

Technologies used: Keras, PyTorch, OpenCV, OpenPose and Mask R-CNN.

Code: github.com/canaltinigne/Human-Pose-Estimation-Joint-Detection

◇ **Istanbul Technical University, DAMGA Lab** March 2017 - June 2018

· Implemented several efficient text compression algorithms using SDSL-Lite (a C++ Succinct Data Structure Library).

· Worked on an efficient algorithm that checks if a DNA subsequence comes from the forward strand or not using Longest Common Prefix arrays, Suffix arrays and Aho-Corasick algorithm.

Technologies used: C, C++, SDSL-Lite and Python

Code: github.com/canaltinigne/FASTQ-Forward-Read-Adjuster

PUBLICATIONS & PREPRINTS

1. **Can Yilmaz Altinigne**, Dorina Thanou and Radhakrishna Achanta. Height and Weight Estimation From Unconstrained Images. *Preprint submitted to IEEE ICASSP 2020.*
2. **Can Yilmaz Altinigne**, Harun Ozkan, Veli Can Kupeli and Zehra Cataltepe. An Empirical Study on Arrival Rates of Limit Orders and Order Cancellation Rates in Borsa Istanbul. *Preprint:* arXiv:1909.08308.
3. Serif Bahtiyar, Mehmet Baris Yaman, and **Can Yilmaz Altinigne**. A Multi-Dimensional Machine Learning Approach to Predict Advanced Malware. *Computer Networks.* 2019.
4. Mehmet Baris Yaman, **Can Yilmaz Altinigne** and Serif Bahtiyar. A Machine Learning Approach to Predict Advanced Malware. *Proceedings of the Second International Balkan Conference on Communications and Networking.* 2018.

OTHER PROJECTS

◇ **Green Growth Book Visualization** September 2018 - February 2019
Stanford University

· This project is a spatial table of contents for the published book in the scope of Natural Capital Project of Stanford University. We visualized the data of environmental projects around the world. This project was selected for the presentation in 2019 Natural Capital Symposium at Stanford University.

Technologies used: Javascript, D3, Leaflet, QGIS.

Web page: http://viz.naturalcapitalproject.org/GreenGrowthBook/

◇ **Bachelor's Thesis** February 2018 - June 2018
Istanbul Technical University

· Aimed to model the limit order flows and predict limit order features in exchange markets with several discrete distributions using R and Python.

· Performed time series analysis on average price level with ARMA, ARIMA and LSTM models.

Technologies used: Python, R, Scikit-Learn, Keras and Scipy