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Can Yilmaz ALTINIGNE

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EMPLOYMENT

Swiss Data Science Center — Feb 2019 - Present
Graduate Research Assistant — *Lausanne, Switzerland*

- Developed a neural network model to extract high quality segmentation masks and estimate human pose, height and weight from full body single-person images with ***Python***, ***PyTorch*** and ***OpenCV***.
- Reached mean Dice score of ***92%*** for human instance segmentation, and surpassed the previous state-of-the-art model for height estimation task from unconstrained images by achieving ***6.13 cm*** mean absolute error.

Computer Vision Lab at EPFL — Sept 2019 - Jan 2020
Graduate Research Assistant — *Lausanne, Switzerland*

- Outperformed the baseline model for self-supervised object detection and segmentation task by improving mean J-Score and recall by ***7%*** and ***20%*** respectively using contour losses and optical masks with ***PyTorch***.
- Integrated Gumbel-Softmax estimator into model training phase to enable backpropagation through samples.

AXA Advanced Engineering Lab — Jul 2019 – Sept 2019
Data Scientist Intern — *Lausanne, Switzerland*

- Redesigned the road and building segmentation models for disaster impact assessment with ***Python***, ***TensorFlow***, ***OpenCV***, ***Numpy*** and ***QGIS***.
- Improved mean J-Score of building segmentation model by ***11%*** using Resnet U-Net, and increased mean J-Score of road segmentation model by ***5%*** using D-LinkNet with Pixel Deconvolution layers.

CERN — Jun 2017 - Aug 2017
Software Engineer Intern — *Geneva, Switzerland*

- Reduced the load time and improved the user interface of CERN's Database on Demand service using ***Angular*** and ***TypeScript*** on ***Linux***. Implemented unit tests with ***Jasmine*** and ***Karma***, used ***Jenkins*** for CI.
- Followed Agile software development methodologies, attended daily and weekly meetings during the project.

ASELSAN — Jun 2016 – Jul 2016
Software Engineer Intern — *Ankara, Turkey*

- Successfully delivered a real-time augmented reality application that shows watercraft locations on optical camera view using ***Java***, ***OpenCV*** and ***FFmpeg*** on ***CentOS***. Implemented unit tests with ***JUnit***.

EDUCATION

École Polytechnique Fédérale de Lausanne — Sept 2018 - Jun 2020
Master of Science in Computer Science **| GPA**: 5.18 / 6 — *Lausanne, Switzerland*

- **Selected Coursework:** Distributed Algorithms (**C, C++**), Information Security and Privacy (**Python, Docker**), Machine Learning (**Python**), Computer Vision (**Python**), Database Systems (**Scala**), Applied Data Analysis (**Python**, **Spark**).

Istanbul Technical University — Sept 2013 - Jun 2018
Bachelor of Science in Computer Engineering **| GPA**: 3.72 / 4 — *Istanbul, Turkey*

- **Selected Coursework:** Data Structures and Algorithms (**C++**), Object-Oriented Programming (**C++**), Database Systems (**MySQL**, **PostgreSQL**), Learning From Data (**Python**), Artificial Intelligence (**Python**), Probability and Statistics (**R**, **Matlab**).

PROJECTS

- **Lightweight Movie Recommendation System** (*2020*)**.** Built a movie recommendation system for groups using ***Flask***, and deployed it to ***Heroku***. Utilized Non-Negative Matrix Factorization after getting users' scores for coldstart using ***scikit-surprise*** library and ***MovieLens-100K*** dataset. **Link:** movinder.herokuapp.com
- **Green Growth Book Visualization** (*2019*). Visualized the data of environmental projects around the world using ***Javascript***, ***D3.js***, ***Leaflet.js*** and ***QGIS***. This project was selected for the presentation at Natural Capital Symposium 2019 at Stanford University. **Link**: viz.naturalcapitalproject.org/GreenGrowthBook/
- **Twitter Clone App** (*2017*)**.** Implemented a social media platform by combining the features of Facebook, Twitter, Goodreads and Amazon, and deployed it to IBM Bluemix. Worked with ***Flask***, ***HTML*** and ***Bootstrap*** for front-end, ***PostgreSQL*** and ***Psycopg2*** for back-end. **Link:** github.com/itucsdb1617/itucsdb1617

PEER-REVIEWED PUBLICATIONS

1. **Can Yilmaz Altinigne**, Dorina Thanou and Radhakrishna Achanta. Height and Weight Estimation From Unconstrained Images. *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*. 2020.
2. Serif Bahtiyar, Mehmet Baris Yaman* and **Can Yilmaz Altinigne*.** A Multi-Dimensional Machine Learning Approach to Predict Advanced Malware. *Computer Networks.* 2019. (*:equal contribution.)
3. 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.

SKILLS

- **Programming Languages & Database:** Python, C, C++, Javascript, Java, R, Shell scripting, MySQL, PostgreSQL.
- **Web Development:** HTML, CSS, Bootstrap, Node, Angular, Express.js, Flask, jQuery, Karma.
- **Data Science:** PyTorch, Keras, Tensorflow, Scikit-Learn, Spark, Pandas, Numpy, Scipy, OpenCV.
- **Tools & Testing:** Git, Jenkins, QGIS, Docker, JUnit, Karma, Jasmine.