FURKAN EGE HOSGUNGOR

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EDUCATION

University of Sussex **MSc Advanced Computer Science** Sep 2019 – Oct 2020

- Pandemic Simulation with Reinforcement Learning, dissertation project for master's degree
- Area Courses: Machine Learning/ Engineering Reliable and Scalable Project / E-Business and E-Commerce Systems
- GPA: **Distinction 1:1**

Koç University **BSc Mechanical Engineering** Sep 2014 – June 2019

- Senior year project: A Haptic Feedback Glove for Virtual Reality. Got **A+ and Best Senior Project Award**.
- Area Courses: Rocket Propulsion / Finite Elements Analysis /Machine Design /Corporate Dynamics for Engineers

EXPERIENCE

Data Scientist *Macerita* May 2020 – Present

- An Avalanche Risk Prediction Model which is funded by the Scientific and Technological Research Council of Turkey.
- Created a multiclass classification model with **TensorFlow**, **Python** and achieved **87% accuracy** for high and medium levels of avalanche risks in the Region of Aladaglar, Turkey

Project Lead Developer *KARMA Lab Immersive Technologies* Jan 2019 – Jun 2019

- Coordinated KARMA Lab's 3 VR/AR/MR projects: KU-TWIN, Isles of Emotion, Psychosis
- Challenged by a group of 15 people from different backgrounds including professionals, PhDs and grad students.
- Gained expertise at creating projects with **Arduino**, **Leap Motion** and **Infrared Cameras** for **Computer Vision**

Software Engineer *KUAR Research Center for Creative Industries* Oct 2018 – Jun 2019

- Achieved to create a **"Digital Twin"** of campus for VR by utilizing **photogrammetry** techniques and Unity.
- Obtained a deep care about developing, releasing and maintaining **high quality code**.
- Learned the importance of version control with **large-scale simulations up to 1TB**.

Data Science Summer Intern *BSH Hausgeräte* Aug2018 – Sep 2018

- Focused on creating a performance report at Cooling Systems-Functional R&D Center of Refrigeration Department
- Achieved 5% time efficiency by optimizing the manufacturing process of refrigerators cover hinges.

Summer Intern *Ford Otosan* Aug 2017 – Sep 2017

- Worked in "Engine and Power Train Manufacturing" Department R&D in İnönü Truck Factory.
- Reverse engineered the competitors' truck engines and compared the results with Ford Ecotorq Truck Engine.

Undergrad Research Assistant *Manufacturing and Automation Research Center* Oct 2016 – Nov 2017

- Implemented a **PID controller** for 2D Inverted Pendulum with **MATLAB Simulink** which got selected the most robust model towards to noise signals in Mech304 Control Systems Course
- Reverse engineered a Hexacopter drone and modelled on **Siemens NX**

PROJECTS

- Pandemic Simulation with Deep Reinforcement Learning. The project is about training agents to make them learn survival strategies in an epidemic outbreak such as social distancing and self-quarantine. **TensorFlow** is used as backend and trainings are done on cloud using **AWS EC2** instance. The **Unity** added the project to their showcase and the project will be public soon. Moreover, the thesis is planned to publish after Oct 2020.
- A Binary Image Classification Machine Learning Project in Postgraduate Machine Learning Module. A **Random Forest Classifier** model has been chosen and implemented with **Python** using **Sklearn**. Imbalance, unlabeled data, domain adaptation and confidence annotation were some of the challenges that I have been faced. **Finished at the top** of the leaderboard with 82% accuracy in the test-set.
- A Vibrotactile Hand Interface for VR was final year project of bachelor's degree. The project aimed to create sense of reality by giving vibrotactile feedback to hand. The hardware has been created using 10 **ERM** vibration motors, **Arduino**, **C, Leap Motion** and **HTC VIVE** and **3D printing**; software has been developed with **C#** in Unity. The project got **Best Engineering Project Class of 2018-2019 Award** and it is presented in **VRDays Exhibition** on Amsterdam afterwards.
- A Cross Platform Multi-User Real Estate Application is created using **React Native** and **JavaScript.** The **MongoDB** is used as database, **Firebase** used for Authentication and the **REST API** is implemented with **Express.js** in **Node.js**.
- A web-based, multi-user-payment service using **J2EE** technologies. 3-Tier Architectural pattern has been utilized: **Java Server Faces** for user interfaces, **Enterprise Java Beans** for business logic, **Form-based authentication** for security and **Java Database Connectivity (JDBC)** and **SQL** for database. All project has been done without any extra libraries, from the scratch. The project achieved to cover strong fundamentals for Web Services. The application deployed on **AWS EC2** Instance at the end, got A+ from the course.

Work Eligibility**:** Eligible to work in the UK and Turkey