EGE HOSGUNGOR

Senior Robotics Data Scientist

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EXPERIENCE

Senior Robotics Data Scientist   **Ocado Technology**   2022 - Present
- Created Data-Driven and Model-Driven Systems to improve Ocado's operations of bots.
- Led development of a hybrid Crash Detection System using **computer vision** and **accelerometer data**; used **YOLO** and **RT-DETR** models for **object detection** and **pose estimation**, resulting in 70% more crash detections and reduced reaction time.
- Led development of a **Wireless Signal Forecasting** system by combining **machine learning** and empirical models with proprietary bot **signal data** to predict network coverage and anticipate warehouse design issues, reducing potential multi-million-dollar losses per CFC.
- Designed and run **research experiments** for developing an iterating on new techniques.
- **Causal Inference** on Software Release Strategies with **A/B Testing** Experiments.

Reinforcement Learning Engineer   **Dcipher Analytics**   2020 – 2022
- Implemented RL algorithms / environments for NLP domain: Sentiment Analysis on stock markets **Gym, TF, Ray and GCP.**
- Directed all phases of a traditional machine learning project focused on predicting avalanche risks, utilizing domain adaptation techniques to analyze over 200 historical datasets from different domains.

Software Engineer   **KARMA Lab Immersive Technologies**   2018 – 2019
- Coordinated KARMA Lab's 3 VR/AR/MR projects: KU-TWIN, Isles of Emotion, Psychosis
- Led a group of 15 people from different backgrounds including professionals, PhDs, and grad students.
- Designed a comprehensive "**Digital Twin**" VR simulation by implementing advanced photogrammetry techniques using the Unity Engine.

EDUCATION

MSc Advanced Computer Science   **University of Sussex**   2019 – 2020
- Dissertation: "Pandemic Simulation with Reinforcement Learning"
- Area Courses: Machine Learning/ Engineering Reliable and Scalable Project / E-Commerce Systems
- **Distinction, First Class Honor (4.0 GPA)**

BSc Mechanical Engineering   **Koç University**   2014 – 2019
- Senior Project: "A Haptic Feedback Glove for Virtual Reality" **Best Engineering Project Award.**
- Area Courses: Rocket Propulsion / Finite Element Analysis /Corporate Dynamics for Engineers

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PROJECTS

- SMSBOTU - SaaS product that brings internet access via SMS for the people who don't have reliable internet connection but still in the GSM coverage. Currently 300+ users and monthly 20 beta testers. **(Langchain, OpenAI API, Fastapi, GCP Cloud Run, Firebase, Nextjs, Tailwind)**

- Competed in 5 different Kaggle Competitions (details can be found in the portfolio). (**Numpy, Pandas, Sklearn, XgBoost, LightGBM, Keras, Torch, Tensorflow Matplotlib, Seaborn**)
- Pandemic Simulation with Deep Reinforcement Learning Training RL agents in a continuous action space and continuous state space pandemic outbreak simulation to measure the success rate of social distancing strategies by using RL techniques. The environment had a showcase in Unity's Webpage. (**TF-Agents, Gym, TensorFlow, AWS EC2, Unity**)
- Developed an innovative Vibrotactile Hand Interface for VR earning the **Best Engineering Project Class of 2018-2019 Award**. Showcased the prototype at Europe's premier VR event, attracting over 2,000 industry attendees in Amsterdam. (**Computer Vision, Hand-Tracking, Arduino, C, 3D printing, Hardware Design, Unity, User Experience, Simulation)**

- Academic Article Classification (NLP Project) (**BERT, TF-IDF, Embeddings, FastText)**

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