**IPEK SAHBAZOGLU** ipeksahbazoglu@gmail.com <https://ipeksahbazoglu.github.io/portfolio/> +4407470720755

**EDUCATION**UNIVERSITY OF OXFORD—Magdalen College; *2019-2023*

MEng*,**Engineering Science, 2:1* **–** Coursework: Statistics, Probability, Systems and Perturbation Methods, Machine Vision, Regression, Neural Networks, Machine Learning, Cloud Computing and Accelerators, Computer Architecture/ Networks, Technology Strategy, Software Engineering, Control Systems, Optimisation.AMERICAN ROBERT COLLEGE **–** *High School Diploma,* 91% Average; SAT: 1520  *2014-2019*

**SKILLS**Python(sk-learn, numpy, pandas, boto3), Java, R, SQL, Machine Learning, Pytorch, Tensorflow, Data Science, AWS (RedShift, S3, CDK), ETL, Tableau, Microsoft Office, Git, MATLAB, CAD, Solidworks; Turkish **EXPERIENCE**

**VELA PARTNERS**, Project WeaveOxford, UK*Machine Learning Engineer* Dec 2023  
∙ Created an innovative software that builds a knowledge graph, leverages natural language models, and uses graph convolutional network to generate predictions about entity relationship and insights on the venture capital ecosystem.

∙ Developed a python library to transform tabular data into a knowledge base, perform inductive ML tasks, and automate web scraping Linkedin profile data. Pre-processed and feature engineered a large-scale dataset.

∙ Wrote an academic level on my methodology, implementation, and findings. Visualised knowledge graph data.

**AMAZON**, AMZL(Amazon Logistics) Last Mile Trust & Safety London, UK*Business Analyst Intern* Jun-Oct 2022  
∙ Pre-processed, analysed and joined data from large/complex data warehouses to perform exploratory data analysis, feature selection for temporal trend identification. Developed a predictive model from scratch that combines piecewise regression and time-series forecasting analysis. Increased forecast accuracy by 80%.  
∙ Automated the data pre-processing, analysis model training and forecast generation by creating a serverless app using Python (boto3), SQL, AWS, and running ETL jobs. Reduced the logistics report generation time by 50%.   
∙ Collaborated with cross-functional stakeholders to ensure engagement, execution speed, and high-quality outcomes.  
∙ Answered to data requests from various teams, including visualisations, data cleaning and fuzzy string matching.   
∙ Handled multiple priorities in a constantly changing environment and pivoted as the business required.

**ATLAS OF FINANCE**, Yale University Press/School of Geography and the EnvironmentOxford, UK*Technology and Development Intern* September 2021  
∙ Extracted, interpreted and analysed macroeconomic data using R, SQL and Excel from a large dataset.  
 ∙Identified growth patterns in the Financial/Business Services and visualised the key growth metrics with Tableau.  
∙ Processed raw data and manipulated it to inter-industrial transaction matrices to construct Input-Output tables.  
∙ Wrote a script that calculates the network statistics, Leontief/Ghoshian Inverse and backward/forward linkages with 40% improved time efficiency compiled my findings in lists and spreadsheets to develop a financial report.

**DEPARTMENT OF ENGINEERING SCIENCE,** University of OxfordOxford, UK

*Research Intern*  Jun-Aug 2021

∙Built a data processing pipeline using Python, MATLAB and Jupyter Notebook, taking in raw audio data and performing Fast Fourier Transforms analysing its frequency content and visualisations through spectrograms.

∙Presented the report of my data-driven findings and further research areas as a part of a larger sonification project with Oxford’s Faculty of Music, the History of Science Museum, and MIT’s Grammy Award-Winning Evan Ziporyn. **PROJECTS**

**GRAPH NEURAL NETWORKS:** A Systematic Analysis of Robustness against Attacks. Oct-June 2022  
∙Perform a systematic empirical analysis of the robustness of GNNs under different perturbation strategies. ∙Investigating bounds to the change in the GCN output and empirically validate structural conditions for robustness. **PATH-PLANNING FOR MULTI-DRONE SYSTEMS**  Oct-June 2021

Designed and simulated an autonomous-flight path planning framework for surveying of an area, minimising time and resource efficiency. Implemented with MATLAB - Optimisation Toolbox and solved with GUROBI optimiser