YASIR ZUBAYR BARLAS

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EDUCATION

City, University of London *September 2023 - September 2024*
MSc Artificial Intelligence
Expected Grade: TBC
Recipient of the Global STEM Leadership Masters Scholarship

Queen Mary, University of London *September 2020 - July 2023*
BSc (Hons) Mathematics
Grade: 1st Class Honours (4.0 GPA)
Certification: Bloomberg Market Concepts, Microsoft Office Specialist: Excel Associate

Relevant Modules: Statistical Modelling, Linear Programming and Game Theory, Bayesian Statistics, Random Processes, Python/R/C++ Programming, Time Series, Machine Learning, Computational Statistics, Deep Learning, Deep Reinforcement Learning, Agents and Multi-Agent Systems

EXPERIENCE

Queen Mary, University of London *May 2023 - September 2023*
Academic Research Intern in Image Analysis and Network Science *London, UK*

- Conducted in-depth analysis of calcium imaging video-data derived from cardiac tissue, employing advanced techniques in image analysis
- Utilised Python for comprehensive data analytics, encompassing image processing and methods from network science to extract meaningful insights from videos of atrioventricular nodes
- Collaborated with supervisor Dr Anna Maltsev in documenting research methodologies and developing code, expected to contribute to the support of an academic paper

Infosys *June 2022 - August 2022*
Research Intern *London, UK*

- Formulated innovative solutions for business marketing challenges, demonstrating analytical and problem-solving skills
- Investigated the application of artificial intelligence in marketing strategies, contributing insights into cutting-edge technologies
- Conducted comprehensive research in the intersection of data and marketing, culminating in the preparation of a detailed report for the Digital Experience team, providing valuable strategic guidance

Queen Mary, University of London *June 2021 - August 2021*
Academic Research Intern in Probability *London, UK*

- Conducted in-depth research in the probabilistic field of total variation distance and the law of small numbers
- Utilised the programming language R to perform complex calculations and generate insightful visualisations to enhance data interpretation
- Collaborated with supervisor Dr Dudley Stark in the creation of an academic paper, which has been successfully accepted by a journal, showcasing the practical application of research findings

PROJECTS

Undergraduate Dissertation: Naive Bayes and Sentiment Analysis *R*
Packages: e1071, gmodels, tm, wordcloud

- Conducted sentiment analysis on Amazon and Yelp reviews using a machine learning algorithm known as the naive Bayes classifier
- Implemented a comparative analysis with a logistic regression model, showcasing a nuanced approach to model selection and evaluation
- Achieved an accuracy rate of 77%, and proposed strategies to improve this accuracy further

Analysis of Atmospheric Carbon Dioxide Levels *Python*
Libraries: Matplotlib, NumPy, Pandas

- Implemented global and local trend fitting techniques to discern patterns and identify seasonal variations in atmospheric carbon dioxide levels
- Developed a custom function akin to *numpy.polyfit()* to effectively fit data to polynomials, contributing to precise modeling of trends
- Created compelling visualisations illustrating the historical evolution of atmospheric CO_2 levels, demonstrating proficiency in data visualisation techniques

POSITIONS OF RESPONSIBILITY

Queen Mary, University of London Students' Union *September 2022 - June 2023*
Mathematics Course Representative *London, UK*

- Engaged in constructive discussions with the liaison committee to analyse and address feedback provided by students in regular meetings
- Demonstrated leadership by co-chairing segments of liaison committee meetings
- Implemented a systematic approach to surveying students, seeking their insights to make improvements and adjustments to the Mathematics curriculum

Queen Mary, University of London *September 2022 - June 2023*
Peer Assisted Study Support Mentor *London, UK*

- Delivered valuable support to first-year students by addressing questions and clarifying concepts related to their Mathematics course modules
- Provided a supportive and engaging environment for students to discuss study-related challenges and seek advice
- Orchestrated weekly mentoring sessions, tailoring each session to meet the specific needs and challenges of participating students

Loxford School *November 2018 - July 2019*
Computing Assistant Teacher *London, UK*

- Collaborated with the teacher to provide valuable assistance and to address student queries
- Demonstrated a passion for teaching and a commitment to empowering students with essential programming skills
- Inspired and motivated students to pursue computer science in the future

PUBLICATIONS

Barlas, Y. and Stark, D. "An investigation into the law of small numbers using R", *Ball State University, Mathematics Exchange*, **17**(1):2–14

SKILLS

Programming Languages	C++, R, Python, MySQL, LaTeX, HTML, CSS
Machine Learning Frameworks	scikit-learn, PyTorch, TensorFlow, Keras
Data Visualisation	Excel, Tableau