Alina Glaubitz

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About Me

I am a solution-oriented Mathematical Modeler and Data Scientist graduating with a Ph.D. in Mathematical Modelling in June 2024. Since I have always been passionate about Data Analysis, Machine Learning, and AI, much of my work inside and outside of the classroom has been focused on these topics. I am self-motivated and committed to lifelong learning and interdisciplinary collaboration.

Education

PHD IN MATHEMATICS | June 2024 | DARTMOUTH COLLEGE (GUARINI SCHOOL OF GRADUATE AND ADVANCED STUDIES)

MASTER IN MATHEMATICS | August 2020 | TU BRAUNSCHWEIG

BACHELOR IN MATHEMATICS | April 2019 | TU BRAUNSCHWEIG

Projects (integrated in my website)

FORECASTING | BOX OFFICE

- Designed and implemented a robust system to collect daily box office data through web scraping, storing it in a dynamically updating database. Analyzed over 15,000 data points through extensive Exploratory Data Analysis (EDA) to identify key trends and patterns. Developed a sophisticated forecasting model with a Mean Absolute Percentage Error (MAPE) of 0.4, optimizing predictive accuracy. Engineered an interactive dashboard for real-time data visualization, featuring automated weekly updates to forecast future box office trends accurately.

IMAGE CLASSIFICATION | CATS AND DOGS

- Engineered a high-precision Image Classification system with an accuracy exceeding 99%, effectively distinguishing between images of cats and dogs. Performed comprehensive EDA on a dataset of 8,000 images, leveraging data insights for model enhancement. Built upon the ResNet architecture to develop the model, demonstrating advanced skills in neural network utilization.

RECOMMENDATION SYSTEM | MOVIES

- Conducted an in-depth comparative study of content-based and collaborative filtering techniques to create a sophisticated movie recommendation system. Analyzed a vast dataset of 400,000 movie reviews, applying Natural Language Processing (NLP) techniques in extensive EDA to extract meaningful insights. Developed and deployed an interactive system, offering personalized movie recommendations, thereby enhancing user engagement and experience.

Leadership

RESEARCH EXPERIENCE | DARTMOUTH COLLEGE

- Spearheaded over three interdisciplinary research projects in Evolutionary Game Theory, contributed to top-tier journals, and presented at seven international conferences as well as numerous seminars, while adeptly managing teaching responsibilities and excelling academically.

TEACHING EXPERIENCE | DARTMOUTH COLLEGE AND TU BRAUNSCHWEIG

- Conducted lectures and developed curricula for Probability and Pre-Calculus classes, managing teaching assistants and graders and addressing classroom challenges with strong adaptability and leadership skills.
- Led tutorial sessions for up to 100 students in various subjects, providing feedback on assignments and exams, and effectively communicating complex concepts in ten classes including Introductory Statistics and Probability Theory.

Skills

- Mathematics (Statistics, Mathematical Modeling)
- Programming (Python (Scikit-Learn, Tensorflow, Keras,...), R, Java, C, html, JavaScript)
- Machine Learning (Supervised Learning, Unsupervised Learning, Deep Learning)
- Cloud Computing (Google Cloud)
- Data Visualization (Tableau, Power BI) and Databases (SQL, NoSQL)
- Presentation and Collaboration

Relevant Course Work

Statistical and Machine Learning, Mathematical Statistics, Risk and Extreme Value Theory, Inverse problems, Machine Learning with Neural Networks, Game Theory and Artificial Intelligence, Machine Learning and Statistical Analysis