CHRIS DSILVA

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EDUCATION

Rutgers University, New Brunswick, New Jersey, (*GPA: 3.833*) **Sep 2022 – May 2024**

- **Master of Science in Industrial and Systems Engineering**
- Relevant Coursework: Data Analytics for Engineering Systems, Supply Chain Engineering, Quality Management, Simulation of Production Systems, Project Management (RBS), Risk Analysis and Mitigation, Production Analysis

Princeton University, Princeton, New Jersey **Sep 2023 – Dec 2023**

- ORF 535 Financial Risk and Wealth Management

University of Mumbai, Mumbai, India **Jul 2016 - May 2020**

- Bachelor of Engineering in Mechanical Engineering

KEY PROJECTS

Rutgers University

Dual Subreddit Analysis: A Comparative Study of Rutgers and UPenn Online Communities **Jan 2024 - May 2024**

- Developed a Python-based binary classification model to accurately distinguish between r/Rutgers and r/UPenn subreddits, enhancing **targeted content strategies for ads**; this model contributed to a clearer understanding of user interaction differences, driving more effective ad placements.
- Employed cutting-edge NLP methodologies, including **TF-IDF** and **Word2Vec**, to process and analyze over **150,000 subreddit posts**, using a suite of machine learning algorithms **(Logistic Regression, SVC, Random Forest)** to elucidate key user engagement patterns. Optimized algorithms using **grid search** and implemented **early stopping** to maximize model efficiency and accuracy.
- Integrated **Google's Gemini API** for **text embeddings**, advancing model sophistication by comparing neural network outputs against traditional classifiers. Utilized Python-based data visualization **(Matplotlib, Seaborn)** to uncover temporal posting trends, enabling precise model tuning and validation through confusion matrices and **ROC curve analysis**, which significantly enhanced prediction reliability.

Princeton University

Financial Analysis and Strategy Consulting Report **Sept 2023 - Dec 2023**

- Created a comprehensive financial analysis for a $1.5M condo purchase, utilizing **Monte-Carlo simulation** to project a **$500k** down payment growth. Evaluated various **10-year investment strategies**, including a **70/30 SPY/TLT** allocation, considering a **25% capital gains tax** rate. Assessed feasibility over 5, 7, and 10-year periods and analyzed impacts of fluctuating salary growth rates and investment returns. Developed dynamic investment recommendations adaptable to evolving financial goals and market conditions, emphasizing a client-centric approach.

Rutgers University

Efficient 3D Grid Pathfinding with RL Optimization **Sept 2023 – Dec 2023**

- Implemented a **Reinforcement Learning (RL)** algorithm to guide agents through a complex **3D grid environment** efficiently, optimizing pathfinding while avoiding obstacles. Achieved optimal agent behavior through RL training, emphasizing efficient algorithm design. Generated animated visualizations of the agent's optimal paths for comprehensive analysis

Solar Canopy Project Proposal (Eng. Economics) **Sep 2023 – Dec 2023**

- Developed a comprehensive engineering project proposal for a solar canopy project, by using **Monte Carlo simulations** to generate mean costs along with the **5th and 90th percentile** and made recommendation based on the **NPV, IRR and PW** finally considering tax and social aspect of building a project.

WORK EXPERIENCE

Hikma Pharmaceuticals (Compounding 503B) – Graduate Engineering Intern **May 2023 – Aug 2023**

- Devised and managed a calibration and validation strategy for over **50 types of equipment** using Excel, later transitioning to **Blue Mountain software** to enhance forecasting accuracy; this shift improved operational reliability and compliance, significantly reducing regulatory risks and adhering to **FDA/DEA standards**.
- Led and executed **Installation, Operational, and Performance Qualification (IOPQ)** for new equipment, enhancing reliability by **10%** and ensuring compliance through effective collaboration with QA and manufacturing teams; authored comprehensive protocols to produce **14 key injectables** to uphold high-quality standards.
- Proactively identified and **resolved manufacturing issues**, such as equipment malfunctions and procedural deviations, maintaining operational excellence and minimizing downtime through targeted **interventions and quality assurance** measures.

Accutech Power Solutions – Production Planning (Mumbai) **Jan 2022 - Jul 2022**

- Streamlined repair processes and redesigned production line layouts using **lean manufacturing** and CAD software, cutting repair times by **10%** and boosting production efficiency.
- Optimized supply chain operations by redesigning warehouse management practices, enhancing efficiency through improved scheduling and inventory management.

Jude Electronic Products - Production Engineer (Mumbai) **Nov 2020 - Dec 2021**

- Led a **6-member** team to implement **JIT inventory strategies** and optimize production processes using data analysis, significantly enhancing supply chain and operational efficiency.

PROFESSIONAL AFFILIATIONS

- Member of the **Institute for Operations Research and the Management Sciences (INFORMS)** **Jan 2023 – Present**
- Member, Rutgers **Alpha Pi Mu Honors Club** for Industrial and Systems Engineering (2024) - Recognized for academic merit and dedication to the field **Dec 2023 - Present**
- Operations Manager (Business Team) at the **Rutgers Solar Car Team** **Dec 2023 - Present**

TECHNICAL SKILLS

- Flexsim, MS Office (Excel, PowerPoint), AutoCAD, SolidWorks, Ansys (Mechanical APDL), Tableau, Arena, Power BI, SQL, Programming: Python, R, MATLAB,