JOEL BRANDINGER

616-516-7638 | jbrandinger99@gmail.com | linkedin.com/in/joelbrandinger

EDUCATION

Tufts University **Medford, MA**
B.S. Data Science *September 2020 – May 2024*
- Minors: Mathematics & Economics
- GPA: 3.7 / 4.0
- **Relevant Courses:** Data Structures, Algorithms, Machine Learning, Statistical Pattern Recognition, Big Data, Cyber Security, Web Programming, Computer Vision, Machine Structure, Probability, Statistics, Linear Algebra, Calculus 1-3

EXPERIENCE

Tufts University **Medford, MA**
Machine Learning Research Assistant *November 2023 – Present*
- Collaborating with a professor in the Urban & Environmental Policy department contributing to a study aimed at optimizing water resource management in Karachi, Pakistan using advanced predictive analytics
- Utilizing Python and R to analyze dataset of water usage from households, employing machine learning techniques including multiple regression, spectral clustering, and decision trees to predict water usage patterns

JumboCode **Medford, MA**
Software Developer *September 2023 – Present*
- Proactive contributor within a student-run organization dedicated to delivering pro bono software solutions to nonprofits and charitable organizations
- Leveraging technologies and tools including TypeScript, React, Next.js, MongoDB, and Python

Principal Financial Group **Des Moines, IA**
Software Engineer Intern *May 2023 – August 2023*
- Contributed to development and maintenance of a large-scale data warehouse for Enterprise Data & Analytics department
- Built ETL applications using Informatica Power Center to facilitate data population and curation
- Utilized AWS EC2 instances to extract data from Salesforce using Python and SQL

Prentiss Hockey Performance **Stamford, CT**
Data Analytics Intern *May 2022 – August 2022*
- Conducted in-depth data analysis to identify key performance indicators for hockey athletes, enabling evidence based decision-making and customized training programs
- Collaborated with coaching staff to streamline data collection and implement performance assessments

SKILLS

Programming Languages: Python, C, C++, Java, JavaScript, SQL

Tools & Frameworks: PyTorch, TensorFlow, SciKit-Learn, Spark, React, Next.js, HTML, CSS, AWS, GCP, Git, Informatica

Spoken Languages: Swedish (native), English (fluent), Spanish (intermediate)

PROJECTS

Chimpanzee Size Estimation **Medford, MA**
Data Science Capstone *Present*
- Innovative project harnessing the power of Python, OpenCV, PyTorch, and SciKit-Learn to develop a computer vision model for accurate size measurements of chimpanzees, utilizing pose estimation algorithms to analyze visual data
- Collaborating with the Kibale Chimpanzee Project and Tufts Simulation Lab to revolutionize the field of non-invasive research and conservation, providing vital scientific insights

Scholar Puck Track **Medford, MA**
Personal Project *September 2023*
- Developed a full-stack web application tailored to effectively track and visualize NCAA hockey commitments from various junior hockey leagues across North America
- Extracted and preprocessed raw data sourced from the EliteProspects API to construct a robust database in DynamoDB
- Seamlessly implemented AWS CI/ CD pipeline utilizing Python, YAML, JavaScript, and React

Spotify Song Recommendations **Medford, MA**
Statistical Pattern Recognition *April 2023*
- Applied unsupervised machine learning techniques to analyze a dataset of Spotify songs, resulting in identification of distinct musical clusters based on various audio features
- Explored upgrading the K-Means algorithm to a Gaussian Mixture Model to leverage probabilistic modeling