

Udip Bohara

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EDUCATION

Mercyhurst University

Master of Science in Data Science | GPA 4.0

Erie, PA

Jan. 2019 – Dec. 2020

Mercyhurst University

Bachelor of Science in Biostatistics/Public Health

Erie, PA

Aug. 2013 – Dec 2017

EXPERIENCE

Graduate Research Assistant

Aug. 2019 – Present

Department of Computer Science, Mercyhurst University

Erie, PA

- Researched and built novel methods of Intrusion Detection System in cybersecurity using deep learning and Natural Language Processing technologies (n-gram modeling with PCA).
- Mined and analyzed Twitter data to apply machine learning techniques (Natural Language Processing, Convolutional Neural Network and other classification algorithms) to identify key factors that affect cognitive decision-making.
- Analyzed and wrangled history data from web-browsers to visualize it and built an interactive GUI application for inter-department students to use with Django, D3, Python and SQL.
- Built classification models to analyze and boost prospects conversion for the department.
- **Teaching Assistant:** making lectures, teaching and grading for CIS-200 Linear Data Structures (70+ students)

Student Research Analyst

Feb. 2020 – May 2020

Johns Hopkins Applied Physics Lab

Remote

- John Hopkins program of Forecasting Counterfactuals in Uncontrolled Settings (FOCUS)
- Worked on Simulation-based hypothesis-analysis to develop counter-factual predictions.

Data Scientist

Jan. 2019 — May 2020

Department of Institutional Effectiveness, Mercyhurst University

Erie, PA

- Cleaned and migrated data from Ellucian Colleague to Google Cloud Platform (BigQuery) for effective ad-hoc analysis and modeling.
- Developed highly interpretable ad-hoc institutional reports using Python to be presented to key stakeholders (Provosts and Deans of the University)
- Applied wrangling, visualization and machine learning techniques such as SMOTE, Decision Trees, Regression models and other ML technologies.
- Produced pragmatic solutions and intervention models to institutional problems such as Grade Inflation and Retention.

PROJECTS

ArXiv Recommendation System: On-Going | *PySpark, Neo4j, Gephi, Graphframes, sigma.js*

- Utilize NLP methods along with Graph theory to model recommendation systems based on open data from ArXiv utilizing Google Cloud Platform
- Visualize Results utilizing Gephi and sigma.js for usability and interpretability.

Optical Character Recognition (OCR) | *Python, PyTorch, Tesseract*

- Developed scalable end-to-end extraction of information from receipts using OCR and semi-supervised deep learning with Graph Convolutional Networks

Electricity Demand Forecasting | *Python, Dash, Keras, Heroku*

- Compared advanced forecasting models such as SARIMAX with deep learning methods such as Dilated-CNN and LSTM for Electricity Demand in the USA.
- Utilized multiple APIs to pull live data from multiple sources and developed an interactive Dash Application to be deployed in Heroku with live updates and visualizations with a backend database in MongoDB Atlas.

TECHNICAL SKILLS

Languages: Python, PySpark, R, SQL/NoSQL, Cypher, JavaScript, HTML/CSS

Platforms/Frameworks: Flask, Django, Dash, d3.js, jQuery, Apache Spark, MySQL, MongoDB Atlas, Neo4j

Tools: Git, Databricks, Google Cloud Platform, Azure, Databricks, Jupyter, SPSS, Weka, Rapidminer, ArcMap, Tableau

Libraries: Pandas, NumPy, Plotly, Seaborn, Matplotlib, Scikit-learn, PyTorch, Tensorflow, Tidyverse, ArcPy