MARK PATRICK OELKUCT

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PORTFOLIO

Portfolio Link

- Showcases projects, skills and interests.
- Maintained with Python, Django, and Git.

EDUCATION

North Carolina State University 2022-2023, (expected)

- Masters of Science in Statistics

Mount Saint Mary's University, Magna Cum Laude 2012-2016

- Bachelor of Science in Psychology (Research Methods & Statistics)
- Cumulative GPA: 3.7

Online Education Example Coursework 2016-2020

- R & Python Regression Analysis for Statistics & Machine Learning
- R Sparklyr for Transformation and Computation with Cloud Datasets.
- Applied Time Series Analysis & Forecasting with R.

WORK EXPERIENCE

Biofactura Inc. Jun 2021 – Current **Data Engineer**

- Created and implemented CNN Predictive Model for computer vision tasks and system monitoring using Python, Keras, and Tensorflow to capture, compile, and trend critical product measures.
  - Implemented machine learning model for ocular character recognition and classification.
  - Maintained AWS EC2 instances and S3 buckets for cloud computing with Rstudio Server.
  - Programmed text alerts with Python and Twilio text messaging API.
  - Performed Data transformation, analysis, and visualization with R, Python, and Shiny.

- Created Reporting application and Custom Tables in R Shiny for visualizing minute to minute trends of process parameters and product yield.
  - Streams manufacturing process parameters and CNN model output.
  - Displays continuous trends and analytics of cell viability and density.

- Implemented Document Management processes including:
  - Conversion of records to digital format with python, opencv2, pdftools etc.
  - Tabular data extraction of facility sanitation reports for GMP compliance.

Better Business Bureau Great West + Pacific Apr 2018 - Jun 2021 **Data Analyst**

- Performed Natural language processing (NLP) tasks for analysis with R and Python including tokenization, thematic analysis, sentiment analysis, bi-gram frequencies, n-gram correlations, etc. and presented insights with Rmarkdown reports.
- Worked with stakeholders to create a financial time series model of revenue with confidence levels and error measurements (ETS & ARIMA).
- Created R scripts for report automation and financial forecasting.
- Tracked key performance metrics with R and Tableau.

Johns Hopkins University January 2017-December 2018 **Research Assistant**

- Collected, organized, and worked with participant data for the principal investigator.
- Recorded biological measurements in overnight sleep studies according to operationalized methods.

NCI Frederick, MD 2014-2016

Pathways Program Intern at National Institute of Health.

APPLICABLE SKILLS

- *Feature Engineering for NLP, Computer Vision, and other ML tasks.*
- *Principle Components Analysis (PCA) and feature selection for reducing Model Variance.*
- *Sampling Methods, Creating train/test sets and K-folds for Model cross validation.*
- *Creating and Maintaining ML models with R, Python, Keras, and Tensorflow.*
- *AWS EC2 Deployment for scaling with computation on the cloud.*
- *Unix commands and Jupyter Notebook for task and script scheduling*
- *SQL and NoSQL database management (MySQL, PostgreSQL,MongoDB, Amazon S3)*
- *Statistical Programming for hypothesis testing, regression, forecasting correlations, etc.*
- *Report automation and financial data modeling (time series forecasting).*
- *Providing impromptu analytics and data transformations requested by team members.*

Commonly Used Python modules: pandas, numpy, boto, nltk, opencv, tensorflow, keras, pyspark, matplotlib, etc.
Commonly Used R packages: dplyr, ggplot2, shiny, plotly, sparklyr, H20, tidytext, tidyverse, broom, etc.

Leadership

Hoonah, Alaska Co-Researcher & Community Mission Coordinator

- Partnered with Dianne Timm Ph.D. and the Hoonah Indian Association for IRB approved qualitative study.

- Supported the local community by forming and leading education and wellness programs.

Mount St. Mary's University, Video Games and Sleep: Biological Effects of Media Arousal on Students' Sleep Patterns and Reaction Time

- Statistically analysis with SPSS. Looked for significant change in heart rate variability. Presented statistically significant results and conclusions at an undergraduate conference.

Mount Saint Mary's Self Defense and Jiu Jitsu Association *Founder and Instructor*

REFERENCES

Daryl Sampey, Ph.D.
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