

CHARLOTTE SWAVOLA

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<https://www.linkedin.com/in/charlotte-swavola/>

<https://cswavola.github.io/>

EXPERIENCE

Data Scientist

Jan. 2019 - Present

Capital One Financial Corporation, Nottingham, UK

- Implemented and managed behavioral risk models including impact analysis across business areas, data quality validation, and communication with CDO.
- Developed and maintained real-time data quality controls for business continuity including metric improvements, platform and language migration, and risk analysis.
- Integrated new data sources for decisioning including tool/package development for data wrangling, data validation for risk models and credit decisioning, and managing cross-functional teams to implement process improvements across business operations.

PROJECTS

CodeAssist - Featured in UC Berkeley Capstone Showcase

HTML/CSS/JS, Python

Medical billing tool that leverages NLP within ensemble models to predict billing code classification for practitioners using preoperative notes and predict billing mistakes. Feature generation using tokenization, stemming, lemmatization, and other NLP techniques, one vs many logistic regression ensemble model for classification and CNN (with GloVe embedding) model for risk prediction. Models trained and tool hosted using Amazon EC2.

Voulez Vous du Vin?

R

Design, launch, and analysis of a multifactorial advertising experiment to evaluate the impact of foreign language marketing on perceived value of wine. Statistical analysis and Hypothesis testing using randomization inference, robust linear regression and binary logistic regression models.

Economics of a Hurricane

HTML/CSS/JS, Python, SQL

An interactive visualization of the economic effects of Hurricane Katrina on the counties of New Orleans. Presents an overview of gentrification, interactive dashboard with by-county analyses and methodology details. Analysis performed using API's to process geographic data.

Live Tweet Analysis Pipeline

Python, SQL

Development of a basic pipeline tool launched through an Amazon EC2 instance to gather and perform live analysis on tweet content. Pipeline uses Apache Storm, Amazon EC2, Twitter API, Streamparse, Postgres, Psycopg2, and Tweepy.

Social Characteristics

Proposed framework for the design of privacy experiments in a social network setting and interpretation for experiments from multiple privacy contexts (retail, health, etc.) in order to apply their methodology or findings to social network privacy studies.

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EDUCATION

Master of Information and Data Science
University of California, Berkeley

Mar. 2019

Bachelor of Arts, Chemistry
Temple University

May 2013

Director's Honor Roll; Temple Lacrosse, Division I, Atlantic 10 Conference

TECHNICAL SKILLS

- Experimental design, implementation, and statistical analysis for causality testing using randomization inference, linear regression, and binary logistic regression models
- Predictive modelling and forecasting through supervised/unsupervised machine learning using Scikit-learn, Pandas, and Tensorflow.
- Application of classification models including K-nearest neighbors, naive-Bayes, decision tree, random forest, and gradient boost models.
- Big data and cloud supported query and analysis including pipeline construction and data lake management
- Data visualization, dashboard development, and analysis presentation
- Natural language processing including POS tagging, sentiment spectrum analysis, and assembling deep learning algorithms
- Privacy framework classification for experimentation design and user policy impact analysis
- Data and analytics tools/languages: Python, R, SQL, SAS, Hadoop, Hive, Spark/Pyspark, Spark, PySpark, Scala, Tableau, JS/CSS/HTML, Google Analytics, Amazon Web Services
- Project management including risk analysis and asset management, team coordination using agile framework, stakeholder presentations, and project planning software
- Experience in scientific and academic writing
- Conversational Spanish

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OTHER EXPERIENCE

Photovoltaic Laboratory Coordinator

Oct. 2016 – Sept. 2017

Heraeus Photovoltaics, Conshohocken, PA, USA

- Managed KPI dashboards including collection and analysis of efficiency data to identify improvement targets
- Coordinated laboratory activities in a research environment including resource and facility management and process improvement
- Implemented continuous improvement using the 5S/Kaizen lean manufacturing principles
- Conducted SEM analysis of photovoltaic samples

Quality Control Supervisor

Mar. 2015 – Oct. 2016

Johnson Matthey ECT, Inc., Wayne, PA, USA

- Supervised multiple chemical and engineering testing laboratories to conduct production analysis of catalytic converters
- Developed a team of employees and manage documentation and testing databases

Process Development Technician

Dec. 2013 – Mar. 2015

Johnson Matthey ECT, Inc., Wayne, PA, USA

- Engineered coating methods for catalytic converter prototypes