NICK OUELLET

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ML Engineer working with tooling, Deep Learning and Generative AI.

EXPERIENCE

Director of Data Science: Travelers - Personal Insurance AI **March 2023 – Present**

- Develop customer-facing retrieval solutions for insurance comprehension and site navigation
- Lead generative AI research applications for underwriting and discovery
- Lead a team of data scientists on generative AI and deep learning research

Manager of Data Science: Travelers - Personal Insurance AI **March 2022 – March 2023**

- Developing in-house semantic search engine with deep learning based natural language processing
- Building a search frontend with Streamlit and a backend in FastAPI
- Research AutoML Topic Modelling potential
- Train deep vision models on millions of images with unique channel distillation procedures

Manager of Data Science: Travelers - Claim AI **March 2021 – March 2022**

- Developed prediction platform utilizing ElasticSearch backend with React frontend deployed in AWS with Docker for productionalizing and monitoring a deep learning system
- Managed exploration of techniques to model on extremely long sequences of text in supervised and unsupervised fashions
- Made tooling for deep learning vision and language model unsupervised creation and evaluation
- Constructed a modelling pipeline to pull from a tiled image API with geocoding and spatial manipulation for aerial imagery EDA and robust model creation

Associate Data Science Researcher: Travelers - Claim AI **April 2020 – March 2021**

- Created data-driven deep learning models to solve vision and nlp problems of Travelers claims including chatbots, catastrophy detection, policy verification and segmentation
- Integrated the inherently exploratory data science workflow into a CI/CD development cycle
- Managed an intern to develop a model refresh and enhancement based on integrating unstructured text features and multiclass model consolidation
- Built a tool to extract and parse text data from Hadoop creating tokens for downstream modelling

Senior Data Science Consultant: Travelers - Claim Research **April 2019 – April 2020**

- Performed EDA and software development to facilitate productionalization of predictive models
- Deployed the first claim realtime model in a container environment founding best practices for production code architecture, realtime model APIs and operational reporting data storage and retrieval
- Monitored production models to ensure consistency of operation
- Created a prototype platform to aggregate social media sentiment analysis about the company
- Trained a deep learning vision model which won an enterprise-level national competition by Gartner
- Developed a fetching tool to facilitate extracting table metadata and running queries against primary databases

Data Science Consultant: Travelers - Claim Research **October 2017 – April 2019**

- Designed and test Python machine learning models implemented using the Model as a Service (MaaS) delivery framework for real-time cloud-hosted integration into current business workflow
- Used advanced tools and platforms, including Spark, Python, and SAS, to perform exploratory data analysis to determine business viability
- Led classes of 15+ participants to teach software development best practices with respect to machine learning modelling development and testing

PUBLIC COMPANY PROJECTS

Travelers Wildfire Detection Model **November 2018 – April 2019**

- Trained a vision model to identify homes affected by wildfires from aerial imagery
- Developed a pipeline to train models on other catastrophe aerial imagery

EDUCATION

University of Connecticut **September 2016 – June 2017**

- Master of Science in Mathematics
- GPA: 4.16/4.00

Brandeis University **September 2012 – December 2015**

- Bachelor of Arts, magna cum laude, Mathematics with honors
- Minors: Computer Science, Economics
- GPA: 3.72/4.00, Dean's List all semesters

SKILLS

- Web development: HTML, CSS (SCSS), JavaScript, React, NodeJS, Express, Graphql, Apollo, Flask,
- Machine Learning and Data Science: Python, Pandas, Scikit-Learn, Pytorch, XGBoost, SQL, PySpark, SAS
- General: Rust, Lua, Docker, AWS, Postgres, MongoDB, ElasticSearch, Neo4J (w/ Neo4JGraphql), Git, Github (+ Actions), Make