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Kevin M. Grazel

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Education

Rowan University
B.S. in Chemical Engineering

Platforms and Environments

Databricks AWS Azure Google Cloud Linux
MLFlow Docker Jupyter Notebooks PyInstaller

Languages

Python R SQL Bash Markdown

Packages and Frameworks

Spark TensorFlow Keras Pandas NumPy Scikit-learn
PyTorch Plotly XGBoost Matplotlib Seaborn
FastAPI Flask Hadoop Apache NiFi

Experience

Senior Machine Learning Engineer, Cybersecurity — CVSHealth

July 2024 – July 2025

Toolkit: Databricks, Spark, Python, LLMs, Variational Autoencoders, Transformers, SQL, Deep Learning, Embeddings, MLOps

- Led the design and deployment of robust, production-grade ML systems to detect and block botnet web traffic in real time, training on 2TB of data, demonstrating expertise in building scalable, maintainable ML pipelines.
- Developed and optimized a denoising variational autoencoder for anomaly detection, applying advanced deep learning architectures and rigorous unit and integration testing to ensure production reliability.
- Engineered custom tokenization and transformer-based embedding pipelines to convert sparse web traffic data into dense, model-ready tensors, reflecting hands-on experience with DSP-like data processing.
- Championed MLOps best practices, automating model deployment, monitoring, and retraining workflows for continuous production quality.
- Collaborated cross-functionally with engineering and product teams to integrate ML features into production systems, supporting ongoing feature development and bug triage.

AI Engineer — Parker-Hannifin

February 2024 – July 2024

Toolkit: Python, Azure, LLMs, Autogen, RAG Systems, SQL, MongoDB, Vector Databases, Embeddings, MLOps, NLP

- Led end-to-end development of a retrieval-augmented (RAG) chatbot platform, architecting Python-based backend systems for scalable, production-ready deployment on Azure.
- Integrated ML models and MongoDB vector database systems into enterprise environments.
- Instituted CI/CD automation and code quality standards, mentoring junior engineers and fostering a culture of maintainable, high-quality software development.

Consulting Work & Side Projects

August 2023 – February 2024

Toolkit: Python, AWS, LLMs, SQL, MongoDB, Vector Databases, Embeddings, MLOps, PyInstaller

- Designed and hosted a production ML pipeline for real-time job recommendation, leveraging OpenAI embeddings and vector DBs for fast, relevant search, demonstrating rapid prototyping and scaling from research to production.
- Automated document processing for industrial clients, showcasing experience with data ingestion, transformation, and ML-based decision making.

Machine Learning Engineer — PlanetX, LLC
September 2022 – August 2023

Toolkit: Python, SQL, AWS, FastAPI, Selenium, LLMs, Recommender Systems, MLOps, NLP, Deep Learning, Web Scraping

- Led project strategies as data science lead, ensuring quality, fostering teamwork, and driving accountability for success
- Architected and deployed multi-factor product recommendation engines using Python-based FastAPI on AWS.
- Tripled the number of products available on retail platform using semantic NLP to improve record linkage.
- Built OpenAI ChatGPT integration for environmental consultant chatbot LLM and to enhance product data pipeline.
- Trained deep learning models (CNN BILSTM, Bert) to categorize products and improve user shopping experience.
- Utilized advanced SQL queries to investigate core statistics and overhaul core categorization and peer scoring models.
- Developed web scrapers with Python and Selenium to source alternative data and expand product offering..
- Worked closely with Product and Engineering teams to identify and fix anomalies and to address user UX feedback.

Data Scientist — MUFG Investor Services
November 2019 – September 2022

Toolkit: Python, Pandas, Scikit Learn, SQL, AWS, MLOps, Spark, XGBoost, Forecasting, ETL, dbt, NLP, PowerBI

- Built Python ML training suite to rapidly train and evaluate hundreds of models to forecast investor capital movements.
- Tuned LightGBM model via Bayesian optimization, achieving a 5.0+ lift in targeting users likely to redeem investments.
- Mentored junior analysts in data wrangling and machine learning best practices.
- Led development of backend ETL data architecture (dbt) and frontend PowerBI UI of new ESG reporting product.
- Developed a system to automatically extract information from invoices to reduce invoice processing workload.
- Wrote Python scripts to parse invoice PDF files and trained NLP SpaCy NER models to process text.
- Planned product roadmap toward further business cases given MUFG's unique position as a fund administrator.
- Expedited Ops Team deduplication project by 10x using NLP fuzzy matching techniques to identify duplicate accounts.

Data Science Fellow — Metis
July 2018 – December 2018

Toolkit: Python, Pandas, Scikit Learn, SQL, AWS, MLOps, Spark, XGBoost, Forecasting, ETL, dbt, NLP, PowerBI

- Developed multiple end-to-end ML projects, including time series forecasting and NLP topic modeling, with a focus on reproducibility and code quality.

Senior Risk Consultant — Process Risk, LLC
April 2016 – November 2019

- Automated critical business processes with custom software, reducing project cycle times by 50% and demonstrating commitment to engineering efficiency and quality.
- Led teams of three to ten engineers and operators, serving as project consultant and client point of contact.

Validation Engineer — Bristol Myers Squibb
September 2015 – April 2016

- Expedited validation procedures by developing automation methods in Visual Basic.
- Completed validation of cryogenic freezers in half the budgeted time.
- Became validation lead after training new team members on validation equipment.
- Validated and certified calibration of critical climate-control units; focus on pharma, biotech, and life sciences.

Project Engineer — Grünenthal June 2014 – September 2015

- Designed, implemented, and validated EHS (Environment, Health, and Safety) projects in pharmaceutical plant.
- Oversaw design, installation, and integration of a climatic test chamber to assess pharmaceutical product stability.
- Projects include plant ventilation and filter upgrade, explosion-proofing production and storage areas, water purity monitor installation, pneumatic system upgrade.

Field Service Engineer — Analitica Weisser June 2013 – June 2014

- Provided in-field service and support for high precision chemical instruments.
- Consulted with laboratory directors on strategy, optimization, and analytical insights.
- Coached and trained new engineers for solo field service.

Continuous Improvement Engineer — SQM June 2011 – February 2013

- Used SQL to query historical ion concentration data and developed a simulation model of vat leaching iodine extraction.
- Conducted studies in R with survey data to characterize behavior of caliche ore heap leaching process.
- Developed gPROMS simulations to model precipitation of salts and ion concentrations in evaporation ponds.

Consulting Work and Research Projects

Refinery Maintenance Dashboard — A consulting job for an oil refinery I'd worked with previously. Small accelerometer internet-of-things (IoT) sensors were used to monitor vibration levels of pumps and compressors at various refinery units. The data was logged to a Snowflake SQL database hosted on AWS. I developed a dashboard in PowerBI that would connect to Snowflake and prioritize maintenance based on planned unit downtime schedules and vibration level history.

CampOut — Displays campsites available for reservation on an interactive map. Behind the scenes, a web scraper running on an AWS EC2 server continuously gathers the latest campsite availability data.

WhaleWatch — A personal research project that monitors the SEC's EDGAR database for declared purchases and sales of stock by company board members. I use time series analysis to determine if a company's stock price might warrant a closer look by watching for board members buying or selling large amounts of corporate stock.