Michael Brancazio

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LinkedIn — Portfolio

EDUCATION

Master of Health Administration (MHA), May 2018
Bachelor of Science in Health Science (BS), May 2016
Hofstra University, Hempstead NY

RECENT EXPERIENCE

NewYork–Presbyterian Hospital, New York NY
Developer / Data Literacy Associate, 1/25 - Present
Business Intelligence Developer of Data Strategy, 4/22 - 1/25

- Develop and implement a machine learning predictive model in Python to predict healthcare reimbursement likelihood, enhancing vendor referral efficiency and data-driven decision-making within NYP's Revenue Cycle Department
  - Projected to reduce unnecessary vendor referrals by 30%, increase reimbursement rates on referred cases by 15%, and potentially save ~$500,000 annually through optimized vendor agreements and reduced operational costs
- Engineer in-house LLMs leveraging RAG framework and vector-based retrieval to assist front-end users in navigating proprietary data models, data definitions, and dashboards
  - Create a full-stack web resource (HTML, CSS, Javascript) that aggregates all Access-to-Care department data, integrating a custom chatbot trained on department-specific documentation and data models
  - Scale tool & model across multiple teams and departments, facilitating broader organizational adoption and enhancing enterprise-wide efficiency; leverage Azure Machine Learning and Azure Cognitive Services to deploy predictive models
  - Worked in agile sprints to rapidly develop, test, and deploy chatbot models with data literacy programs
  - Fine-tune open-source models (Gemma & Llama) on proprietary data
- Redesign and maintain backend SQL code for enterprise-wide Palliative Care dashboard, comprising of both clinical and non-clinical data
- Utilize Epic Clarity data model for custom reporting on various enterprise initiatives (i.e., Opioid guideline monitoring, Parkinson's patient registry, Press Ganey score assessment)
- Rollout in-house data warehousing initiative, 'JupiterGOLD', along with manage proper data governance policy
  - Establish standard practices and templates for all reporting tables
  - Build in-query error reporting with QA checks delivered via email to database administrators
- Transition of Tableau dashboards to Microsoft PowerBI, including visualization overhaul as well as translation of calculations to DAX format
- Implemented star and snowflake schema design for Palliative Care data marts, creating optimized fact and dimension tables that reduced query complexity while maintaining granular patient outcome metrics
- Champion a data-driven culture by deploying organization-wide data literacy and AI upskilling programs, focusing on predictive analytics, machine learning, and data visualization
- Partner with Clinical and IT teams to identify high-impact use cases for artificial intelligence, including natural language processing (NLP), deep learning, and computer vision applications
- Lead training workshops and curate digital resources to empower staff in leveraging big data, advanced analytics, and AI tools for data-informed decisions
- Serve as a strategic advisor on AI/ML innovations and emerging technologies such as augmented intelligence and automated data workflows, providing leadership insights for scalable AI solutions

IQVIA, Boston MA (Remote)
Data Analyst / Consultant, 1/21 - Present

- Perform descriptive and diagnostic analytics highlighting historical trends and KPIs for pharmaceutical business reviews
  - Creation and modification of complex SQL queries to identify seasonal product trends and outliers that have significant financial implications for clients
  - Utilization of Power Query within Excel for sourcing SQL data for simple reporting needs and data modeling via Power Pivot
  - Create projections that optimize reimbursement programs that improved patient utilization while maintaining a positive ROI
- Present year-end as well as quarterly business reviews to high-profile clients (Pfizer, Novartis, AbbVie, etc.)
- Build and manage close relationships with clients providing them with customized analytics, reports, and presentations
- Employ PowerBI for the automation of reports and dashboards regarding product specific claim and patient level data
- Implement new predictive analytics to measure transactions and spend projects on a monthly, quarterly, and yearly basis
- Manage and lead 3 analysts on Machine Learning & Forecasting initiative within PAAS
  - Build machine learning forecasting models tailored to each product, brand, and client
  - Utilize Prophet, Plotly, and Tkinter to create user-friendly tools for analysts
- Automate Accumulator and Maximizer Solutions with SPROCs (Stored Procedures), reducing concurrent server load and manual analyst querying by 90%

NewYork–Presbyterian Hospital, New York NY
Senior Revenue Cycle Analyst, 5/21 - 4/22
Revenue Cycle Analyst, 7/19 - 5/21

- Automate financial reports and analysis of monthly finances for 9 hospitals; build and design Tableau dashboards to automate aggregation of monthly data and visualize it for both analyst level and high-level executive reports
- Collaborate with enterprise data warehouse, data governance, and business teams on data quality issues, as well as architecture and structure of data repositories
- Organize complex data modeling, data manipulation, and visualizations for numerous revenue cycle projects
- Lead transition of monthly financial report generation from Excel into Python
  - Utilization of Pandas, NumPy, and PETL to create and generate cleaner data pipelines and reports
  - Data cleaning and basic ETL processes to transition and rebuild large Access databases into other formats
  - Calculate key financial performance metrics (KPIs), including NCR, RAO, and TPRR
  - Convert a 3-day manual process into a 30-minute automated process, reducing time by greater than 90%
- RC60 Monthly Presentation - produce and host monthly hospital-wide educational webinar educating subject-matter experts on the impact of the revenue cycle and its ancillary parts
- Initialize financial reporting specific to COVID-19 cases within NYP; analyze subsequent data
- Facilitate biweekly workgroup meetings with key stakeholders and VPs

ICL, Brooklyn NY
Administrative Manager, 10/18 - 7/19
Intern under Deputy Chief Operating Officer Dr. Deborah Rose, 1/18 - 6/18

- Help open new East New York Hub; participate in crucial initial processes and structuring of operations
- Manage healthcare facility of 200+ staff housing clinics and offices, as well as oversee day-to-day operations
- Lead daily conferences to collaborate on issues & goals; communicate regularly with executive team on company vision
- Create, maintain, and interpret analytical building reports from the BMS (Building Management System)
- Create, design, and implement Temperature Reporting System (TRS) backend and UI & Intrasite Homepage for both the tracking and analysis of staff moral as well as improving communication and systematic information flow

SKILLS, SOFTWARE, & OPERATING SYSTEMS

Data Science & Analytics	**Windows OS & MacOS**	**SQL**
Business Intelligence (BI)	**SSRS, SSIS, SSAS Reporting**	**Python (Pandas, NumPy, Plotly, Prophet, Tensorflow, etc.)**
Big Data & Machine Learning	**Microsoft Access**	**R**
Data Governance	**Microsoft Power BI & DAX**	**Tableau Data Visualization Software**
Management	**Microsoft Excel**	**Epic EHR**
Large Language Models (LLMs)	**Artificial Intelligence (AI)**	**AI Strategy / AI Literacy / Data Literacy**

CERTIFICATIONS

AI Strategy
eCornell
Data Science
eCornell
Machine Learning
eCornell
Business Economics
eCornell
Tableau Certified Data Analyst
Tableau
Microsoft Office Specialist (MOS)
Excel 2016 & Advanced Excel 2016
'Machine Learning by Stanford University'
Coursera

'Intermediate Python for Data Science'
DataCamp
'SQL for Data Science' & 'Joining Data in SQL'
DataCamp
'Python' & 'SQL (Advanced)'
HackerRank
'Google AI Essentials'
Coursera
'Google Agile Essentials'
Coursera
'Google Project Management: Professional Certificate'
Coursera

ORGANIZATIONS

Upsilon Phi Delta Honor Society
Association of University Programs in Health Administration (AUPHA)

Healthcare Leaders of New York (HLNY)
Chapter of The American College of Healthcare Executives (ACHE)

Future Healthcare Leaders
Hofstra University, Hempstead NY

PERSONAL PROJECTS

Stock Dashboard
What: A basic sample page designed as a dashboard displaying stock market indicators, using static sample data.
How: Creating a front-end dashboard using HTML, CSS, and JavaScript, having it fed by live refreshable data feeds using YFinance (though this example is static).
Why: The real version is a version I use to this day for my personal investing purposes.

Manhattan Monte Carlo: Simulating Optimal Walking Routes
What: A simulation that models walking routes on a grid (i.e., Manhattan streets) and uses probability (Monte Carlo method) to find the fastest paths, considering potential delays like traffic lights.
How: Employing a Monte Carlo simulation method to compare the efficiency of fixed walking paths versus paths that adapt based on conditions (like traffic lights).
Why: A real-life scenario of figuring out what the fastest, on average, method to walk to work was.

FlowField (Particle Simulation)
What: A visual simulation displaying numerous small particles moving across the screen, their paths influenced by underlying, interactive force fields.
How: Implementing an HTML5 Canvas API simulation featuring interactive force fields that affect particle movement.
Why: To make pretty, dynamic patterns. It was a fun exercise in using the Canvas API to create interactive visuals - and turned out more fun to play with than I anticipated.

3D Ball Simulator
What: An interactive web simulation with 3D balls; complete with gravity, collisions, and explosions.
How: Using a Three.js simulation that incorporates gravity, collision detection, and user interaction (both for mouse and touch).
Why: Because it's fun. And to put some Three.js into practice.