Charlie Guthrie

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SENIOR DATA SCIENTIST

Senior data scientist and visualization engineer with a wealth of experience transforming large sets of data into actionable insights. Expertise in helping teams quantify and reach goals. I build pipelines, statistical models, dashboards, A/B testing frameworks, and other tools that enable teams to make better decisions.

TECHNOLOGIES: Queries and pipelines in SQL, Airflow, Hive ETL, AWS and other Big Data technologies; Analysis in Python (Pandas, NumPy, SKLearn), R, Excel, Shell Scripting; AI LLM GPT APIs; Data Vis/Front-End in Looker, HTML, Flask, CSS, JS, D3.

COMPETENCIES: Building Data Pipelines, Experimentation System Design & Analysis, Defining & Moving Metrics, Statistical Modeling, Dashboards, A/B Testing, KPI Definition, Data Literacy, Decision-Making, Problem-Solving, Business Intelligence Analytics; applying LLM APIs to business use-cases.

PROFESSIONAL EXPERIENCE

Bookworm GPT - CO-FOUNDER AND CTO **2023 - Present**
- Founded seed-stage startup whose AI product reads long documents for you, and answers questions about them.
- Embedding passages from source text into vector space, chatbot appends most relevant passages to user prompt before submitting to LLM. Provides response along with citations to relevant passages to validate against hallucination.

Coursera - SENIOR DATA SCIENTIST **2022 - 2023**
- Empowered the paid media team to optimize ad spend by setting up return-on-investment (ROI) measurement by channel. Authored a script for estimating ROI for TV campaigns. Enabled the team to achieve 187% ROI on the latest campaign.
- Built & maintained pipeline of users attributes such as language, geography, and users' interests to enable self-serve audience creation by the email marketing team for campaigns. Brought in 300k+ new paying learners into the program.
- Instituted company-wide KPIs that measured marketing and acquisition team performance as well as top-of-funnel growth. Shifted the priority to focus more on meaningful KPIs with concrete objectives.

Udemy - SENIOR DATA SCIENTIST **2019 – 2022**
- Founded and led the Experiment Review Council, overseeing 150+ experiments in 2021; which in turn generated $21M in annualized lift.
- Built out a system that identified and removed bots from experiment results, eliminating nearly 60% of invalid traffic. Accelerated the rate of experiment results with fewer experiment restarts.
- Clearly defined metrics for learning engagement, constructed a model that studied drivers, and enhanced the user experience. Boosted learning engagement by 11% year-over-year.
- Championed a project that incorporated non-video engagement into the instructor compensation package. Incentivized instructors to include more content beyond just standard video.

Facebook - DATA SCIENTIST **2017 – 2019**
- Designed and implemented an accuracy measurement to benchmark and approve the moderation systems. Determined the most accurate sampling distribution and headcount requirements for a body of expert moderators that judged the accuracy of 15k+ content moderators. Decreased the number of errors by 40% in one year.
- Built model identifying ambiguous cases; led to the creation of the Oversight Board for review (oversightboard.com).

New York Times - DATA VIS ENGINEER **2013 – 2015**
- Expanded data literacy, access, and decision-making by developing and implementing custom interactive visual dashboards in D3.js. Delivered outstanding business intelligence analytics across 10+ departments, including financing and advertising teams.

EDUCATION & PROFESSIONAL DEVELOPMENT

MSc in Data Science, New York University
BA in Mathematics, Dartmouth College