Michael F Vertuli

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I'm a software engineer with deep "big" data experience and a knack for functional programming who is seeking a Senior Software Engineer position with an organization where I may put my leadership experience, technical skills, and fast learning ability effectively to use.

Work Experience

Software Engineer, Spotify, New York NY, 4/2022 - 6/2023
SCALA, PYTHON, SQL, JAVA, GCP, DATA ENGINEERING, BACKEND ENGINEERING, DATAFLOW, BIGQUERY, GRPC

- Led the planning, architecture, prototyping, and delivery of a Music Industry Knowledge Graph and a series of novel derived data products to enrich the Spotify catalog working within a unique R&D-focused product area.
- Fostered cross-functional partnerships between our team and the Research, Product Intelligence, Catalog Quality, and Human-in-the-Loop Annotation teams to strategically design entity matching systems, define key assessment metrics, update the common data ontology, and gauge the precision and accuracy of entity attributes and relationships.
- Authored comprehensive RFCs and gained the necessary consensus from a large cross section of organizational stakeholders that outlined the implementation roadmap, assessment metrics, and phased product releases to shape team OKRs over multiple quarters.
- Rapidly delivered end-to-end exploratory prototype products that were then incrementally improved to incorporate additional datasets, to be powered with more sophisticated matching and entity resolution algorithms, and to use more robust production-level pipelines written in functional Scala.
- Mentored team members, particularly in data literacy and the necessary grounding in statistics, data science, and data engineering for them to contribute and confidently own our data products.
- Navigated our team through challenges arising from ambiguous organizational directives, mediated and resolved various conflicts, flexibly adapted to new roles and expanded responsibilities, and served as Technical Owner for the project.

Software Engineer, Premise Data, San Francisco CA, 12/2021 - 3/2022
SCALA, GCP, BACKEND ENGINEERING, HTTP4S, CATS-EFFECT, GOOGLE BIGTABLE, TERRAFORM, OPENAPI, DOCKER

- Orchestrated the complex migration of core REST backend microservice architecture written in functional Scala between different cloud architectures, ensuring minimal downtime and improved system efficiency.
- Established a blueprint for new continuous integration/continuous delivery (CI/CD) pipelines with GitHub Actions and GCP products and championing their adoption to replace outdated, cumbersome workflows.
- Pioneered a centralized repository for API specifications, introducing automation to streamline the generation and distribution of core service API client libraries across multiple programming languages.

Software Engineer, Datasembly, Washington DC, 11/2020 - 10/2021
SCALA, GCP, WEB SCRAPING, CATS, MONIX, PLAY, SNOWFLAKE, APACHE KAFKA, APACHE SPARK, DOCKER

- Quickly mastered the scraping architecture to deliver a scraper within weeks, optimizing the development process by introducing test driven development practices that became a benchmark for the organization.
- Developed advanced scraping tools in functional Scala that navigated diverse public APIs for browser websites and mobile applications to regularly collect millions of points of retail and grocery data.
- Supported downstream data processing and product teams, integrating our scrapers with Kafka, Snowflake, BigQuery, and Airflow.

Software Engineer, Factual, Los Angeles CA, 3/2019 - 4/2020
SCALA, PYTHON, DATA ENGINEERING, HADOOP, HIVE, AWS, APACHE AIRFLOW, APACHE SPARK, SPARK.ML, KUBERNETES

- Developed a proficiency with standard Python data science tools (Jupyter, pandas, numpy, scikit-learn) to author data investigations, conduct preliminary exploratory data analyses, and prototype data pipelines.
- Delivering data insights, analytics, and real-time alerts to cross-functional internal teams with quickly developed internal user-facing services and frontends.
- Pioneered the replacement of core data pipelines from batch Hive SQL queries to Spark jobs written in type-safe, testable Scala orchestrated with Airflow, enhancing reliability, performance, and scalability.
- Implemented production machine learning models to generate new audience segments for advertisers, navigating complex cross-functional collaborations
- Advised leadership on technical decisions during an organizational infrastructure shift from our own Hadoop cluster to an AWS powered cloud infrastructure.

Founder, Newton American Education Studio, Shanghai CN, 7/2011 - 3/2016
ENTREPRENEURSHIP, LEADERSHIP, SALES, MARKETING, MANAGEMENT, MANDARIN, NETWORKING, RISK-TAKING

- Founded and managed the staff of a Shanghai-based educational consultancy that offered STEM tutoring, test preparation, and admissions counseling for students aiming to study abroad in the US.

Education Experience

B.S. Physics, Pennsylvania State University, 2008

Ph.D. (incomplete) in Astrophysics, Colorado State University, 2008