Michael F Vertuli - Software Engineer

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I'm a data-focused software engineer who enjoys functional programming and is experienced with:

* backends, implementing data scraping infrastructure from various sources at scale,
* data engineering, building highly performant data pipelines on distributed architecture,
* data science, applying statistics / machine learning on very large datasets, and
* frontends, building dashboards to give an impactful user experience when exploring data.

# Job History

## Datasembly, Software Engineer, Remote, 11/2020 - 10/2021

* Wrote and improved dozens of scrapers and tools (mostly in purely functional Scala; some Javascript and Rust) to regularly collect data from diverse public APIs and mobile sources.
* Quickly learned our internal scraping framework, dependent on Scala libraries like play, monix, cats, as well as various HTTP backends and Javascript tools like puppeteer.
* Within my first weeks, wrote and shipped a scraper collecting data used in production.
* Spearheaded initiative to revamp workflow to promote a more organized, test-driven development (TDD) process; promoted good software development practices across the organization by live demonstrating new scrapers that were more testable and robust with easier to maintain code.
* Interfaced with data processing teams (using Kafka, Snowflake, BigQuery, Airflow) on an entirely cloud-based infrastructure (using GCP).

## Factual (now Foursquare), Software Engineer, Los Angeles CA, 03/2019 - 04/2020

* Replaced our core pipeline built on Hive (using SQL) queries with new type-safe, robust, testable, performant pipelines leveraging Spark's Datasets API (using purely functional Scala) and managed via Airflow (using Python) to derive insights from terabytes of location data ingested daily.
* Collaborated with management to make architectural decisions between scalability and cost regarding which pipeline elements to keep on our own cluster versus migrating to AWS.
* Worked with product managers and data scientists to define and implement machine learning models (using spark.ml and scikit-learn) to model customer insights and generate segments.
* Built frontends (using PostgreSQL and Django) for cross-functional team exploration of data insights, pipeline analytics, and data quality monitoring and alerting.
* Regularly released reports of data analysis (using Jupyter) to key stakeholders, as well as regularly giving live presentations of key team advancements to the company.
* Worked within an Agile scrum team using industry standard tools and applications (git / GitHub, TeamCity and Jenkins for CI/CD, Docker, Kubernetes)
* Volunteered with recruitment efforts and mentoring.

## Freelance, Tutor, Washington DC and Los Angeles CA, 03/2016 - 03/2019

## Landon School, Math Teacher, Bethesda, MD, 08/2016 - 01/2017

## Newton American Education Studio, Founder, Shanghai China, 07/2011 - 03/2016

## Shanghai Normal University, Physics Teacher, Shanghai China, 08/2009 - 06/2011

* After a brief stint in graduate school to study toward a PhD in physics, left early and embarked on a seven year adventure to Shanghai, first teaching physics at an international school.
* Founded a Shanghai-based education consultancy and led a ten person team of counselors, teachers, and account managers serving Shanghai's top students studying abroad.
* Pivoted quickly from initially providing test preparation to instead fill a previously unmet market niche for long-term, holistic, and honest academic planning and guidance for studying abroad.
* Developed rudimentary data scraping tools to collect public application profiles and admissions metrics from various sources, helping inform our staff and track student metrics.
* Returned to the US as business / political climate in China deteriorated, teaching and tutoring math and physics while self-studying for a career change into "data science" / software engineering.
* Self-taught Mandarin, Italian, and Cebuano.

# Education

## Pennsylvania State University, B.S. Physics, 2008