SPENCER ELKINGTON

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Using data to generate cool new graphs we can all appreciate.

EDUCATION

University of Utah *August 2022*

B.S. Quantitative Analysis of Markets & Organizations (Business Economics & Analytics)
Minor Computer Science

Key Skills: Game Dev | Economics | Data Science | Data Analytics | Data Visualization | Software Development | Data Structures | Algorithms Machine Learning | Org. Design | Econometrics | A/B Testing | AGILE | Artificial Intelligence | Audio/Video Codecs | Data Mining | Digital Economics | Distributed Computing Financial Modeling | Game Theory | Linear Alg. | Mentoring | Model Design | Object-Oriented Design Quantitative Research | Statistics | Strategy | Technical Writing |

Software: Jupyter | Databricks | Amazon Web Services (AWS) | Apache Airflow | Apache Spark | Arduino | Audacity | Bash | CentOS | Docker | Excel/VBA | FFMPEG | FactSet Git Jira Kubernetes | Linux LucidChart MySQL | Node.js | Pivotal | PySpark | Qt | RHES | React | Roblox Studio | STATA | Snowflake | Tableau | Travis | Ubuntu | Windows |

Languages: Python | TypeScript | Lua | Bash/Shell | C | C++ | C# | HTML/CSS | Java | JavaScript | Lua | R | SQL | STATA | Visual Basic/VBA

EXPERIENCE

Senior Data Analyst, *M Science ◇ Jefferies Bank* *December 2021 - Present*
- Develop fast & scalable **PySpark** ETL pipelines for petabyte-scale economic data
- Investigate & implement **AWS** and **Spark** optimizations to reduce ETL job costs by as much as 90%
- Design cluster profiling frameworks to assess compute inefficiency & propose infrastructure solutions
- Build & present **Tableau** dashboards for pipeline performance analytics & business cost insights

Data Analyst, *M Science ◇ Jefferies Bank* *June 2021 - December 2021*
- Fine-tune parameters for mission-critical economic data categorization pipelines
- Build & present **Tableau** dashboards to convey health of pipeline KPI metrics
- Create onboarding material to train new hires on pipeline processes & team missions

Quantitative Research Intern, *Wasatch Global Investors* *Jan 2020 - May 2021*
- Researched portfolio allocation models to fine-tune performance of multi-billion dollar portfolios
- Developed **Python/SQL** pipelines to ease and automate collection & aggregation of financial data
- Conducted research into market hypotheses through bespoke model simulations
- Created experiments in **Python** to adapt network and spectrum analyses to detect asset alpha signals
- Designed visualizations and dashboards in **Tableau** to tell intuitive stories with data

Network Research Intern, *Utah Center for High-Performance Computing* *Mar 2019 - Jan 2020*
- Built a **Kubernetes/Docker** platform to simplify large-scale distributed scientific app deployments
- Constructed & wrote project documentation site in **React.js** to polish appearance for NSF grants
- Researched the use of **Foreman** build/deploy systems to remotely structure new server cluster pools

Center Director, *Mathnasium of Utah* *Apr 2018 - Nov 2018*
- Directed the strategy and operations of a K-12 math tutoring center with 80 enrolled students
- Taught K-12 core and supplemental curriculum to students across varying skill levels and backgrounds
- Developed creative and intuitive teaching methods to cover a range of students learning methods
- Led a team of a dozen skilled math instructors in refining teaching and presentation practices
- Analyzed student assessment and progression data to curate & teach individualized learning plans

Programming Instructor, *University of Utah* *May 2018 - July 2018*

- Collaborated with a small team to design and teach a two-month computer programming curriculum
- Implemented data structures/algorithms, such as recursive sorts and Voronoi partitioning, in **Scratch**

Housing Ambassador, *University of Utah HRE* *June 2016 - March 2017*
- Provided tours of campus housing options to prospective students and their families
- Created an **Excel** process for mass e-mail processing to reduce time required to execute mailing contact lists

Medical Device Assembler, *Bard Access Systems* *June 2016 - August 2016*
- Operated silicon injection machinery to produce medical device components
- Followed strict medical assembly standard operating procedures

INDEPENDENT PROJECTS

Live Resume Continuous Integration Pipeline *2021*
- Designed a continuous integration pipeline to host dynamic copies of resumes via **GitHub Actions**
- Collaborated with university educational groups to teach pipeline implementation to undergraduates

PointyPal: A Better Online Campus *2020-2021*
- Built a class management app to provide students a better online experience through COVID-19
- Created and moderated a virtual campus for 600+ students to test application prior to opening source
- Conducted A/B testing to polish user experiences, resulting in peak growth rates of 100 users/mo

CoinPal: Trust Your Friends With Your Savings! *2020*
- Created a **Python** application to allow group chats to jointly manage a cryptocurrency portfolio
- Implemented a custom API to allow secure & limited interaction between voting clients and app server

Lemonomics *2019*
- Developed a **C++/Qt** educational video game for teaching business strategy and economics concepts
- Ran **SCRUM** development cycle with a team of seven to delegate and monitor task completion
- Engineered custom upgrade, game state, and economic model systems to make development intuitive

Beethoven, *2nd Place out of 30 teams* *HackTheU 2019*
- Designed a closed captioning and audio transcription service for deaf and hard-of-hearing students
- Built a peer-to-peer text & audio streaming **TypeScript** app using **Node.js & React**

Robloxaville *2018*
- Remastered a popular **Lua** game with 8M+ unique plays on the ROBLOX gaming CDN platform
- Engineered project to patch security vulnerabilities and emphasize project maintenance and scalability
- Managed series of contract work jobs to create similar design features for varied development projects

LED Music Visualizer *2018 - 2020*
- Created a **C++** and **Python** system for real-time music data analysis and visualizations
- Designed a **Python** music visualization tool for prototyping analysis & visualization algorithms

Google Assistant Transit Tracker *HackTheU 2018*
- Created a Google DialogFlow application to retrieve local bus schedules via Google Assistant
- Parsed and converted Google DialogFlow voice commands to **SQL** queries of UTA schedule databases
- Deployed application back-end to **Firebase** in order to run all back-end code on the cloud

LEADERSHIP

VP of Education → President, *Utah Chapter of Triangle Engineering* *2019 - 2021*
- Created online infrastructure to balance member needs and community safety during COVID-19
- Reconstituted chapter and passed down a 2-year plan to ensure future organizational stability
- Overhauled chapter functions to accommodate a fully-online environment during the 2020-2021 terms
- Redesigned governing organization to provide a better environment for org growth & self-governance

Founding Advisor, *Utah Phi Sigma Rho Interest Group* *June 2020 - May 2021*
- Founded and advised a university interest group for a national women's STEM organization

- Co-wrote and proofed petitions for recognition from the University and National Headquarters
- Assisted development in a parallel online campus for women in fields of engineering and sciences

STEM Ambassador, *Utah STEM Action Center* *April 2019 - March 2020*

- Inform educators of STEM opportunities and engage students with science and technology demonstrations

Genomic Data Science Tutoring, *University of Utah* *2017*

- Organized & lead a free **Python** tutoring group for a graduate genetic anthropology course
- Utilized stochastic learning frameworks to help students understand large genetic systems & data

References available by request

Single-Page Resumé