

# SPENCER ELKINGTON

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

## EDUCATION

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**University of Utah**

*August 2022*

*B.S. Quantitative Analysis of Markets & Organizations*

*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 Algebra](#) | [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

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**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

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**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**

**Robloxville**

*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

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**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 Résumé*