Caleb Chandler

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EDUCATION

Northeastern University   Boston, MA
Master of Science, Complex Network Analysis   Expected May 2027
- GPA: 4.0

Utah State University   Logan, UT
Bachelor of Science, Economics & Sociology (Dual Major)   Aug 2024
- Institutional Certificate of Proficiency - Law and Society Area Studies
- Huntsman Scholar, Dean's List (Fall 2021 and 2022)
- National Society of Leadership and Success

RESEARCH INTERESTS

- *Societal Evolution*: Quantitative, data-driven modeling of the long-term evolution of social structures and the causes/consequences of societal scaling throughout history
- *Complex Systems*: The relationship between levels of integration in complex systems; when can new layers be said to emerge, and how should their causal effects be delineated? Is there a way to reliably evaluate competing ontologies in a systematic way?
- *Network Science:* The forces and constraints that determine how structure emerges and evolves in real-world networks, how this process can be accurately modeled, and how such models can be used to infer higher-order properties of systems by analyzing the topologies and evolutionary histories of their networks

RESEARCH EXPERIENCE

The Center for Growth and Opportunity   Logan, UT
Undergraduate Research Fellow   Aug 2022 – May 2024
- Collected data on state-level capacity growth for solar and wind energy and utilized econometric regression modeling to support an article on varied ISO market design schemes as a potential culprit for differential capacity growth in renewable energy across states
- Conducted state-by-state analysis of regulatory frameworks and presented findings to senior researcher to assist in development of a policy paper calling for the clarification of property rights to geothermal resources
- Independently formulated a research project focused on identifying solutions to long-term critical mineral scarcity in the renewable energy industry
- Conducted literature review and synthesized information from several disciplines to develop a well-rounded research foundation
- Assisted professor and doctoral students by aiding in recruitment efforts for experimental laboratory studies on game theory and behavioral economics

SELECTED WORK EXPERIENCE

LiveFree Emergency Response   Pocatello, ID
Data Analyst Intern   May 2025 – Aug 2025
- Led internal research project comparing the quality of leads procured by lead provider, resulting in a more profitable lead acquisition strategy and a significant improvement in sales ROI
- Engineered cohesive data model in Power BI by integrating and transforming disparate data sources, including calls, payments, and customer records, to establish connections between databases and analyze key performance indicators through exploratory analysis

- Meticulously cleaned, validated, and standardized records across multiple raw data sources within Power Query, ensuring integrity and accuracy of analysis and creating reliable foundation for modeling and visualization
- Wrote Python script to streamline importation of raw customer accounts data into SQL Server

Outlier   Remote
AI Trainer - Statistics   Aug 2024 - May 2025
- Evaluated performance of LLMs on a range of pre-specified tasks designed to test and improve their ability to interpret statistical data, read charts, graphs and tables, and understand spatial relationships

PROJECTS

College Football Talent Acquisition Network   Oct 2025 - Present
Network analysis concerning the system of player recruitment and transfer in collegiate American football
- Obtained data from API and converted to network format via GraphML
- Used Python to execute a range of network analysis techniques, including community detection, bipartite projection, and bespoke null modeling
- Tracked progress with Git and regularly pushed to public repository
- Used LaTeX editor to document results
- Wrote algorithm to impute missing attributes, resulting in 50% improvement in coverage
- Developed and computed a set of original metrics to represent roster churn and team recruitment strategy; used these metrics to uncover novel insights into the relationship between roster strategy and team success

Network of Events   Oct 2025 - Present
Collaborative soccer/football analytics project exploring the prospect of encoding teams in matches as "event networks," where events (shot, pass, etc) are nodes and links represent chronological succession between them
- Utilized deep learning model to obtain by-match embeddings by "disguising" adjacency matrices as images and processing them through a vision transformer
- Computed distances between embeddings and aggregated them to uncover distinct team "signatures"
- Created visualizations and presented results to wider research group

LEADERSHIP & ACTIVITIES

Filmmaking Club   Utah State University
Vice President   Aug 2022 - May 2024
- In charge of coordinating and managing club activities, including scheduling production meetings, resource allocation, and maintaining regular mass-email correspondence with club members
- Engaged in recruiting and outreach activities on campus
- Led weekly collaborative workshops on various aspects of filmmaking to develop members' technical and creative skills

SKILLS & CERTIFICATIONS

Technical
- *Python, SQL, Jupyter Notebook, Git, Excel, Power Query, Power BI, LaTeX*

Analytical
- *Probability and Statistics, Calculus, Linear Algebra, Graph Theory*

Certifications
- *Microsoft Office Specialist: Excel Associate (March 2021)*