

Alexander E. Bendeck

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Summary

Data scientist with expertise in machine learning, statistical modeling, and large-scale analytics in both research and industry settings. Experience developing **production-oriented data products** and building LLM-powered solutions for data integration and analysis.

Skills

- **Languages:** Python, SQL, R, JavaScript
- **ML & Statistics:** Regression, Classification, Clustering, Statistical Models, LLM Applications
- **Data Science Libraries:** Pandas, NumPy, scikit-learn, PyTorch
- **Visualization:** Tableau, D3.js, matplotlib
- **Tools:** Git, GitHub

Experience

Capital One, Manager, Data Scientist **June 2026 – Present**

- Support integration of credit risk models, data assets, and analytical processes following Capital One's acquisition of Discover Financial Services
- Evaluate model development workflows, data dependencies, and operational processes to identify opportunities for standardization across card portfolios

Georgia Tech Visualization Lab, Graduate Research Assistant **January 2022 – May 2026**

Advised by Prof. John Stasko

- Developed LLM-based tools to support end-to-end data analysis workflows, including question answering, dataset discovery from Web sources, and data integration
- Designed and evaluated systems to improve efficiency and accuracy of data exploration tasks
- Built geospatial data visualizations to analyze U.S. migration patterns using public datasets

MIT Lincoln Laboratory, Summer Research Program Intern **May 2025 – August 2025**

Mentored by Ashley Suh and Harry Li in Group 52 (AI Technology & Systems)

- Built an LLM-powered data integration pipeline to automatically merge structured tabular data from local and web sources
- Evaluated system with U.S. Government analysts, demonstrating reductions in manual data integration time and effort

Tableau Research, Research Intern **May 2023 – August 2023**

Mentored by Dennis Bromley and Vidya Setlur

- Developed novel algorithms for trend detection and semantic labeling in time-series data
- Built a now-patented system enabling interactive search over time-series trends

Chu Data Lab, Graduate Research Assistant **August 2021 – December 2021**

Advised by Prof. Xu Chu

- Developed machine learning models for entity resolution using weak supervision techniques
- Improved matching accuracy across noisy datasets by leveraging heuristic labeling functions

Duke Database Research Group, Research Assistant **August 2019 – December 2020**

Advised by Prof. Jun Yang and Prof. Sudeepa Roy

- Designed and implemented an interactive SQL debugging tool to support query validation and error detection
- Developed front-end interfaces and backend query parsing logic

Education

Georgia Institute of Technology (Georgia Tech), Atlanta, GA **August 2021 – May 2026**

Ph.D. in Computer Science

- Advisor: Prof. John Stasko
- Dissertation Topic: Large Language Models as Data Analysis Assistants

M.S. in Computer Science

- Concentration: Machine Learning | GPA: 4.0/4.0
- Courses: Graduate Machine Learning, Computer Vision, Data & Visual Analytics

Duke University, Durham, NC

August 2017 – May 2021

B.S. in Computer Science and Statistical Science, *Summa Cum Laude*

- Concentration: Data Science | GPA: 4.0/4.0
- Courses: Machine Learning, Data Mining, Statistical Computing, Database Systems

Patents

Systems and Methods for Exploring Quantifiable Trends in Line Charts **Filed in 2024, Granted**

- Inventors: [Alexander Bendeck](#), Dennis Bromley, and Vidya Setlur
- U.S. Patent #12,511,307

Search Tool for Exploring Quantifiable Trends in Line Charts

Filed in 2024, Granted

- Inventors: [Alexander Bendeck](#), Dennis Bromley, and Vidya Setlur
- U.S. Patent #12,216,678

Selected Publications

DataForager: Integrating and Visualizing Datasets From the Web Using Large Language Models.

- [Alexander Bendeck](#), Harry Li, Steven Gomez, and Ashley Suh. *Proceedings of the ACM Conference on Advanced Visual Interfaces (AVI)*, article no. 27, 9 pages, June 2026.

SlopeSeeker: A Search Tool for Exploring a Dataset of Quantifiable Trends.

- [Alexander Bendeck](#), Dennis Bromley, and Vidya Setlur. *Proceedings of the ACM Conference on Intelligent User Interfaces (IUI)*, pp. 817-836, April 2024.

An Empirical Evaluation of the GPT-4 Multimodal Language Model on Visualization Literacy Tasks.

- [Alexander Bendeck](#) and John Stasko. *IEEE Transactions on Visualization and Computer Graphics* (Paper presented at IEEE VIS 2024), vol. 31, no. 1, pp. 1105-1115, January 2025.

How Visually Literate are Large Language Models? Reflections on Recent Advances and Future Directions.

- [Alexander Bendeck](#) and John Stasko. *IEEE Computer Graphics and Applications*, vol. 45, no. 6, pp. 120-129, November/December 2025.

Honors & Awards

Georgia Tech Goizueta Foundation Fellow

August 2023

- Financial award for exceptional Ph.D. students of Hispanic/Latino origin

Georgia Tech President's Fellow

August 2021

- 4-year financial award for Ph.D. applicants in the top 10% of their application pool