

## Alexander E. Bendeck

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### Education

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**Georgia Institute of Technology (Georgia Tech)**, Atlanta, GA **Fall 2021 – Present**

Ph.D. in Computer Science

- Advisor: Prof. John Stasko
- GPA: 4.0/4.0
- Courses: Data Visualization, Human-Computer Interaction, Data & Visual Analytics

**Duke University**, Durham, NC **Fall 2017 – Spring 2021**

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

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

### Research Interests

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Data visualization, visual analytics, maps and geographic data, visualization design methodologies

### Research Experience

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**Georgia Tech Visualization Lab**, Graduate research assistant **Spring 2022 – Present**

Advised by Prof. John Stasko

- Working on geographic visualizations to help domain expert and non-expert users understand migration flows within the U.S.
- Helping collaborators design experimental stimuli to represent electric grids

**Chu Data Lab**, Graduate research assistant **Fall 2021**

Advised by Prof. Xu Chu

- Developed and implemented algorithms for a weakly supervised entity matching system

**Duke Database Research Group**, Research assistant **Fall 2019 – Fall 2020**

Advised by Prof. Jun Yang and Prof. Sudeepa Roy

- Created and revised interface designs for an interactive SQL debugger; reviewed literature to inform design decisions, investigate similar prior work, and identify theoretical challenges
- 2020 CS+ Summer Research Program: Implemented front-end designs (HTML, JavaScript) and query parsing algorithms (Java); designed a plan to test debugger's efficacy in Fall 2020

**Duke Motivated Cognition and Aging Brain Lab**, Research assistant **Summer 2018 – Spring 2021**

Advised by Prof. Gregory Samanez-Larkin

- Conducted statistical analyses to investigate the effects of text message-based health interventions on physical activity
- Wrote Python code to collect and analyze participant data for neuroscience studies

### Publications

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**Designing Visualizations of United States Migration Data for Domain Experts and Non-Experts Alike.**

- [Alexander Bendeck](#), Clio Andris, and John Stasko. Submitted to *IEEE Visualization and Visual Analytics*, 2023.

**Ground Truth Inference for Weakly Supervised Entity Matching.**

- Renzhi Wu, [Alexander Bendeck](#), Xu Chu, and Yeye He. Accepted to *ACM SIGMOD International Conference on Management of Data*, 2023.

## **Text Mining and Spatial Analysis of Yelp Data to Support Socially Vibrant Cities.**

- [Alexander Bendeck](#) and Clio Andris. *11th International Workshop on Urban Computing*, 2022.

## **I-Rex: An Interactive Relational Query Explainer for SQL.**

- Zhengjie Miao, Tiangang Chen, [Alexander Bendeck](#), Kevin Day, Sudeepa Roy, and Jun Yang. *Proceedings of the VLDB Endowment (PVLDB)*, Vol 13, *Demonstration Track*, 2020.

## ***Teaching Experience***

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### **Georgia Tech CS 6730 (Data Visualization Principles), Teaching assistant (TA) Fall 2023 (future)**

- Will grade assignments and hold regular office hours

### **Duke COMPSCI 230 (Discrete Math), Undergraduate TA Fall 2020**

- Graded assignments and held regular office hours

### **Duke COMPSCI 101 (Intro to CS)**

Head undergraduate TA

**Spring 2019 – Fall 2019**

- Revised course assignments and improved assignment auto-grading system based on student feedback; oversaw grading of assignments by other TAs
- Co-programmed and deployed a web app for exam prep used by over 120 students

Undergraduate TA

**Fall 2018**

- Graded assignments and held regular office hours

### **Duke Mathematics Department, Office hours staff member**

**Spring 2018**

- Tutored Duke students enrolled in MATH 212 (Multivariable Calculus)

## ***Honors & Awards***

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### **Georgia Tech Goizueta Foundation Fellow**

**Fall 2023 (future)**

- Received a 2-year financial award for exceptional Georgia Tech Ph.D. students of Hispanic/Latino origin

### **Georgia Tech President's Fellow**

**Fall 2021**

- Received a 4-year financial award for highly qualified Georgia Tech Ph.D. applicants in the top 10% of their application pool

### **Phi Beta Kappa Honor Society inductee**

**Spring 2021**

- Selected based on record of high academic achievement

### **Duke University Dean's List with Distinction**

**Fall '17, '18, '19; Spring '18, '19**

- Awarded in every eligible semester for placement in the top 10% of Arts & Sciences undergraduates by GPA

### **Duke Undergraduate Research Support Small Grant recipient**

**2018-19 Academic Year**

- Received funding for an fMRI scan as a pilot tester for a neuroscience research study

### **Florida Engineering Society Scholarship recipient**

**Spring 2017**

- Received a \$1000 merit scholarship based on high school record and STEM interest

### **2017 National Merit Scholarship Finalist**

**Spring 2017**

- Named as a finalist for the 2017 National Merit Scholarship

## ***Professional Experience***

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### **Tableau Research, Research intern**

**Summer 2023 (future)**

Mentored by Dennis Bromley and Vidya Setlur

- Plan to work on novel systems and approaches for semantic labeling of charts

## ***Activities & Mentoring***

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### **Georgia Tech Latino Organization of Graduate Students**

Internal Outreach Committee chair

**Fall 2023 – Spring 2024 (future)**

- Will organize graduate student mentorship program, faculty panels, and networking opportunities for new and prospective graduate students

Member

**Fall 2021 – Present**

- Help facilitate mentorship and networking events for graduate students

### **GVU Brown Bag Talks, Student organizer**

**Spring 2023**

- Coordinated graduate student “lightning talks” for the GVU Brown Bag seminar series

### **Duke Statistical Science Majors Union, Member and student mentor**

**Fall 2020 – Spring 2021**

- Mentored two first-year students interested in data science for the 2020-21 school year

### **Duke Mi Gente Cultural Organization, Member and student mentor**

**Fall 2019 – Spring 2021**

- Mentored one first-year student in the “Mi Familia” program for the 2020-21 school year
- Mentored three first-year students in the “Mi Familia” program for the 2019-20 school year

## ***Service***

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- **Reviewer:** IEEE VIS Conference (2023)

## ***Skills***

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- **Programming:** Python (NumPy, sklearn, Pandas), R (dplyr, rshiny), JavaScript (D3.js), HTML/CSS, MATLAB, SQL
- **Productivity:** Git, GitHub, Zoom, Slack, Microsoft Teams, LaTeX
- **Languages:** English (native language), Spanish (elementary proficiency)