

Alexander E. Bendeck

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Education

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 & Visual Analytics, Human-Computer Interaction

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

Data visualization, visual analytics, human-centered machine learning, data management

Research Experience

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

Advised by Prof. John Stasko

- Designing and building an interactive visualization dashboard for electric grid operators in collaboration with Sandia National Labs

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

Ground Truth Inference for Weakly Supervised Entity Matching.

- Renzhi Wu, [Alexander Bendeck](#), Xu Chu, and Yeye He. Submitted to *Proceedings of the VLDB Endowment (PVLDB)*, Vol 15, Research Track, 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

- Duke COMPSCI 230 (Discrete Math)**, Teaching assistant (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
- Duke COMPSCI 101 (Intro to CS)**, Teaching assistant **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

- Georgia Tech President's Fellow** **Fall 2021**
- Received a 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

Activities

- Georgia Tech Latino Organization of Graduate Students**, Member **Fall 2021 – Present**
- Participate in mentorship, networking, and professional development events
- 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
- Duke Undergraduate Machine Learning**, Member **Spring 2019 – Spring 2021**
- Attended talks and hands-on workshops for Machine Learning and Data Science

Skills

- **Programming:** Python (NumPy, sklearn, Pandas), R, MATLAB, SQL, Java, JavaScript, HTML
- **Productivity:** Git, GitHub, Zoom, Slack, Microsoft Teams
- **Languages:** English (native language), Spanish (elementary proficiency)