Alexander E. Bendeck

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Education

Duke University, Durham, NC   **Expected Spring 2021**

B.S. Degree in Computer Science; second major in Statistical Science

- GPA: 4.0/4.0 | Dean's List with Distinction in Fall '17, Spring '18, Fall '18, Spring '19, Fall '20
- Relevant Coursework: COMPSCI 316 (Database Systems), COMPSCI 330 (Algorithms), COMPSCI 371 (Machine Learning), STA 360 (Bayesian Statistics)

Research Experience

Duke Database Research Group, Undergraduate researcher   **Spring 2020 – Present**

Various work under the supervision of Prof. Jun Yang and Prof. Sudeepa Roy

- During the regular school year, engage in literature review and research meetings to help design and develop an interactive SQL debugger
- During Summer 2020, spent 10 weeks addressing various theoretical and technical challenges in fully implementing an interactive SQL debugger

Duke Motivated Cognition and Aging Brain (MCAB) Lab, Assistant   **Summer 2018 – Present**

Digital Health Interventions Bass Connections team, led by Prof. Gregory Samanez-Larkin

- Write Python programs to be used as participant tasks in various Psychology/Neuroscience studies; assist in collection, organization, and analysis of participant data

Publications

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

- Zhengjie Miao, Tiangang Chen, <u>Alexander Bendeck</u>, Kevin Day, Sudeepa Roy, and Jun Yang. To appear in *Proceedings of the VLDB Endowment (PVLDB), Vol 13, Demonstration Track, 2020*.

Teaching Experience

Duke COMPSCI 230, Undergraduate teaching assistant   **Fall 2020 – Present**

- Grade assignments and hold regular office hours for COMPSCI 230 (Discrete Math for Computer Science)

Duke COMPSCI 101, Undergraduate teaching assistant   **Fall 2018 – Fall 2019**

- Graded assignments, held regular office hours, and assisted in administrative tasks for COMPSCI 101 (Introduction to Computer Science)
- Head Undergraduate TA in Spring 2019 and Fall 2019

Leadership & Mentorship

Duke COMPSCI 101, Head undergraduate TA   **Spring 2019 – Fall 2020**

- Worked closely with Prof. Kristin Stephens-Martinez and other course administrators on advanced administrative tasks for COMPSCI 101 (Introduction to Computer Science); supervised grading of assignments by other Undergraduate TAs

Duke Mi Gente Cultural Organization, Upperclass mentor   **Fall 2019 – Spring 2020**

- Served as a mentor for three first-year Hispanic undergraduates as part of the Mi Gente organization's "Mi Familia" program

Work Experience

Rhodes Information Initiative at Duke: Data+ Program, Data science intern   **Summer 2019**
- Worked for 10 weeks on a team of data scientists to extract player motion data from freely-available basketball footage using Machine Learning and Computer Vision techniques

Duke Mathematics Department, Help room staff member   **Spring 2018**
- Provided walk-in help for Duke students enrolled in Math 212 (Multivariable Calculus) and Math 202 (Multivariable Calculus for Economics)

Honors & Awards

Academic
- Duke University Dean's List with Distinction   **Fall '17, '18, '19; Spring '18, '19**
- Selected by application, Duke-Sloan Graduate School Boot Camp   **Fall 2019**
- Recipient of Duke Undergraduate Research Support Grant   **2018-19 Academic Year**
- National A.P. Scholar   **Spring 2017**
- 2017 National Merit Scholarship Finalist   **Spring 2017**
- National Hispanic Recognition Program (College Board)   **Spring 2017**

Extracurricular
- Selected by audition, Florida All-State Band   **Spring 2017**

Extracurricular Involvement

Duke Mi Gente Cultural Organization, Member   **Fall 2019 – Present**
- Attend social, cultural, and networking events

Duke Undergraduate Machine Learning, Member   **Spring 2019 – Present**
- Attend meetings, workshops, and networking events

Duke Society of Hispanic Professional Engineers, Member   **Fall 2017 – Present**
- Attend bimonthly meetings and professional development events

Duke Symphony Orchestra, French horn musician   **Fall 2017 – Spring 2018**
- Attended rehearsals 4 hours/week
- Took part in 5 yearly performances for the public

Duke University String School Youth Symphony, Volunteer   **Fall 2017 – Spring 2018**
- Attended rehearsal 2 hours/week
- Volunteered to play French horn, an instrument of need, in an educational community youth orchestra

Skills

Technical
- General-Purpose and Object-Oriented Programming (Python, Java)
- Statistical and Analytical Computing (Python, MATLAB, R)
  - Python libraries for computing and data analysis (NumPy, sklearn, Pandas, SciPy)
- Relational database systems and querying (SQL)
- Microsoft Office suite (Word, Excel, PowerPoint)

Productivity and Collaboration
- Code development and version control (Git, GitHub)
- Remote work tools (Zoom, Slack, Microsoft Teams)

Languages
- English (native language)
- Spanish (elementary proficiency)