### 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 freelyavailable 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 Spring 2017

National A.P. Scholar
 National Marit Scholarship Fine

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)
  - o 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)