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Ezoic Recruitment
Ezoic
6023 Innovation Way
Carlsbad, CA 92009

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Dear Hiring Manager:

I am a soon to be graduating senior at Northwestern University majoring in mathematics and minoring in music technology. I was browsing online job listings in Carlsbad, and found your openings for a Business Intelligence Analyst and a Software Engineer. I was excited to find such options, as I am a Carlsbad native and Pacific Ridge School graduate looking to return and begin a career in software and data analytics.

When I arrived at Northwestern University, I was enrolled as a student in the Integrated Science Program, which featured a curriculum of advanced classes in topics ranging from physics to computer science. At the end of my freshman year, I determined that I wanted to focus my attention on math, valuing the flexibility that it offered me. While I may have learned much advanced mathematics during my studies at Northwestern, I found that the more valuable benefits from my career as a math student have been the strengthening of my abilities to understand and communicate new concepts quickly and to think creatively within a rigorous abstract framework to solve problems.

As an undergraduate, I have taken a variety of both pure and applied math courses. In particular, Northwestern's honors MENU courses formally exposed me to topics in analysis and algebra, such as advanced linear algebra and multivariable calculus—a course for which I am also a teaching assistant. In order to supplement my theoretical knowledge, I also took courses studying computational applications of mathematical concepts and worked on research projects in stochastic modeling and bioinformatics. These opportunities allowed me to sharpen my skills as a programmer, but more importantly exposed me to analytical techniques and sharpened a data-driven mindset. Other supplemental computer science classes and programming projects exposed me both to new languages and object oriented principles, and allowed me to familiarize myself with development environments used in professional software operations. In general, I consider myself an expert computer user. If needed, I have extensive experience with Linux in various forms, as I have used Linux as my personal operating system for over three years, with additional experience using it for research projects.

Out of these two positions, I would estimate that I am a better candidate as a Business Intelligence Analyst. In particular, my enterprise software development experience is somewhat lacking, but I feel as though my background studying math with specific computational applications lends itself well to the analytical mindset needed to suceed in this role. That being said, I am eager to learn anything required to succeed in either position, as I recognize that this is only the beginning of my career. Please feel free to contact me with any questions.

Sincerely,

Bailey Bjornstad

Bailey Bjornstad

Data Engineer and Analyst at unumAI

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Experience

Data Engineering and Analysis

2020–Present **Data Engineer and Analyst**, *unumAI*, Denver, CO

Developed company data management software from mathematical specifications with focus on collection and processing of Google Trends Search data for political prediction and issue analysis research.

- Implemented most company methodologies using Python, SQL, and Azure to facilitate easy collection, transformation, storage, and PowerBI presentation of Google Trends search data.
- Used asynchronous request tooling in tandem with Azure Function Applications to increase data collection speeds by orders of magnitude at low cost.
- Integrated Azure tooling for company data maintenance to provide a foundational and extensible software platform for data integration that is accessible to those not necessarily familiar with programming methods or languages.
- Wrote complex DAX code to tackle interactive visual measurement and display of Google Trends Search data across all client contexts.

2019–2020 **Data Management and Analytics Specialist**, *Bright Event Rentals*, San Diego, CA

Assisted company analytics endeavors through CyberQuery programming on database of transactions, rental equipment, and customers

- Wrote customized and automated database queries using CyberQuery to improve rental business analytics and reporting
- Facilitated major revenue generation by using historical data to optimize sales of equipment rental protection policies
- Classified customers in terms of business strategy goals using data to identify inconsistencies between company locations

Mathematics

2017–2019 **Teaching Assistant**, *Northwestern University*, Evanston, IL

Assisted professors of six multivariable and single-variable undergraduate calculus classes by running discussion sections and working one-on-one with students.

2017–2018 **Peer Tutor**, *Northwestern University*, Evanston, IL

Assisted fellow undergraduates of Northwestern University with a variety of math courses in a weekly, drop-in setting.

Summer 2017 **Independent Research in Math**, *Northwestern University*, Evanston, IL

Developed a concept of *mathematical fragility* in birth and death stochastic processes.

- Used `Python` and accompanying analytical tools to develop a preliminary model through simulation of birth and death stochastic processes.
- Mathematically analyzed examples to verify properties of these preliminary models.
- Abstractly developed these preliminary models using mathematical tools from probability to draw out quantities that describe the fragility of a process.

Fall 2016 **Research Assistant**, *Northwestern University*, Evanston, IL

Aided research on inquiry-based approaches to math education by recording classes and documenting student interactions in a novel classroom setting.

Miscellaneous

Summer 2016 **Research Assistant**, *University of California San Diego*, San Diego, CA

Developed a reusable analysis pipeline for single-cell RNA sequencing data used in research on middle-ear infections.

- Worked with the `R` programming language to analyze data sets for intuitive groupings.
- Wrote a series of scripts designed to process and analyze data sets to look for differences in groupings.
- Created visualizations of data in order to better understand the differences between these groups.

Education

2015–Present **Mathematics**, *Northwestern University*, Evanston, IL, GPA: $3.7/4.0$

Undergraduate major in Math with emphasis on advanced classes where possible.
Relevant Courses:

- *ISP Math* — A three quarter intensive course covering multivariable calculus, ordinary differential equations, and linear algebra.
- *Foundations of Higher Math* — A single quarter course on the standards of mathematical proof.
- *MENU Real Analysis* — A three quarter intensive course that rigorously develops calculus, including measure theory.
- *MENU Abstract Algebra & Abstract Algebra* — Two quarters of an intensive course devoted to the study of groups and rings, followed by a one quarter course on Galois Theory.
- *Other Computer Science & Applied Math* — Various computer science and applied math courses covering topics including data structures, `Python` implementations of fundamental algorithms from machine learning, and computational neuronal modeling.

Music Technology, *Northwestern University*, Evanston, IL

Undergraduate minor in Music Technology, with coursework focused on synthesis and analysis of electronic music. In a degree project, co-designed and prototyped a laser harp digital music interface.

2011–2015 **High School Diploma**, *Pacific Ridge School*, Carlsbad, CA, GPA: $4.0/4.0$

Relevant Achievements:

- *Captain of Robotics Team* — Led a team of peers to multiple podium finishes in First Tech Challenge robotics competitions.
- *Theatrical Technical Director* — Organized and produced the technical side of yearly musicals and plays, particularly with regards to audio.

Awards

May 2016 **Excellence in Mathematics by a First-Year Student**, *Northwestern University*, Evanston, IL

Award given to students who display strong achievement in a number of advanced mathematics courses offered at Northwestern University.

May 2019 **Certificate of Recognition for Service as an Undergraduate Teaching Assistant**, *Northwestern University*, Evanston, IL

A certificate given to senior teaching assistants who dedicated their distinguished skills by continually serving Northwestern's math department.

Computer Skills

Programming	`Python, SQL, R`	*Expert*
Cloud Services	Azure Ecosystem	*Proficient*
Statistics	`Numpy, Pandas, Matplotlib`	*Expert*
Typesetting	LaTeX	*Expert*
Linux	Built and maintain a customized installation of Arch Linux as my daily operating system.	

Hobbies and Interests

Radio DJ Host of *Non-Euclidean Space*, *Excitotoxicity*, and *Late Night Geometries* on WNUR 89.3 FM, with focus on electronic music of different geometries.

MTG Have played the trading card game *Magic: The Gathering* at a competitive level.

Cooking In the kitchen, a devotee of *Good Eats*'s Alton Brown and publications *Serious Eats* and *Cook's Illustrated*.

References

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