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Curriculum Vitae
Abraham Arbelaez

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EDUCATION

Exp.Grad. 05/23	**B.S., Statistics**
	The Pennsylvania State Unviersity, University Park, PA
	Cumulative GPA: 3.15
	Minor: Economics, Mathematics
	Key Courses: Statistical Modeling, Probability Theory, Time Series, Statistical Inference, Bayesian Statistics

RESEARCH INTERESTS

Spatio-temporal statistics. Bayesian hierarchical modeling. Bayesian statistics

RESEARCH EXPERIENCE

01/2022–Current — **The Pennsylvania State University**
Position: Undergraduate Research Assistant
Mentor: Dr. Ephraim M. Hanks
- Analyzed thousands of cases on golden eagle and bald eagle migration data.
- Extracted columns and classified raw data into lists of matrices.
- Built informative data visualization and animated plots on the animal movement data that was part of the Exploratory Data Analysis.
- Analyzed golden eagles and bald eagles with archetype analysis.
- Coded Bayesian Hierarchical Models and ran Markov Chain Monte Carlo simulations in R.
- Constructed a new approach to archetype analysis considering covariates using a Bayesian framework.
- Working on Bayesian Modeling of Spatio-Temporal data fifteen hours per week.

05/2022–07/2022 — **McNair Summer Research Program**
Position: Undergraduate Researcher
Mentor: Dr. Ephraim M. Hanks
- Analyzed hundreds of cases on golden eagle migration data with Bayesian Methods and Spatio-Temporal Statistics.
- Developed code for Bayesian Models of Spatio-Temporal in R.
- Presented findings at the Office of Graduate Educational Equity Program (OGEEP) research Symposium at the Pennsylvania State University.
- Wrote and published a journal article describing the findings of the research.

JOURNAL PUBLICATIONS

ARBELAEZ, A., AND HANKS, E. M. Archetype analysis of golden eagle migration patterns using bayesian methods. *The McNair Journal 27* (2022)

Conferences & Poster presentations

30th Annual UMBC McNair Scholars Research Conference, September 15 - 17, 2022. ARBELAEZ, A., AND HANKS, E. M. Archetype analysis of golden eagle migration patterns using bayesian methods. *The McNair Journal 27* (2022)

Office of Graduate Educational Equity Program (OGEEP) Research Symposium at the Pennsylvania State University, July 25, 2022. ARBELAEZ, A., AND HANKS, E. M. Archetype analysis of golden eagle migration patterns using bayesian methods. *The McNair Journal 27* (2022)

Eberly College of Science Undergraduate Poster Exhibition, October 6, 2022. ARBELAEZ, A., AND HANKS, E. M. Archetype analysis of golden eagle migration patterns using bayesian methods. 2022

Community Services

Student Volunteer

10/2022	Promoted undergraduate research opportunities and collaborated in an informal informational panel for a first-year seminar class for more than twenty students regarding my experiences
03/2022	Promoted undergraduate research opportunities and collaborated in an informal informational panel for a first-year seminar class for more than fifteen students regarding my experiences

Honors, Awards & Scholarships

10/2022	Second Place in Eberly College of Science Undergraduate Poster Exhibition - Mathematical Division Awardee
01/2022	Ronald E. McNair Post-Baccalaureate Achievement Program
04/2022	Data Fest at Penn State 2022 - Runner up
08/2021	Dr. George and Diana Kosco Trustee Scholarship
05/2021	Summer Success Scholarship 2021
03/2021	Data Fest at Penn State 2021 - Best Insight
2019-2020	Edmund J. Elder Trustee Scholarship

Technical Skills

Programming: R, Python, SAS, SQL, Tableau, Minitab, LaTeX, Microsoft Office, HTML, CSS

Professional Training

Data Science Professional Resource Group Mentee, Liberty Mutual, Fall 2022
Mentor: Kristine Valo. Data Science Director, Liberty Mutual.
Learning about Data Science and Industry with real world data.

Share Data Through the Art of Visualization Certification, Coursera, February 10, 2022
Online non-credit course authorized by Google and offered through Coursera

Foundations: Data Certification, Coursera, February 10, 2022
Online non-credit course authorized by Google and offered through Coursera

Ask Questions to Make Data-Driven Decisions Certification, Coursera, February 10, 2022. Online non-credit course authorized by Google and offered through Coursera

LANGUAGES

Spanish: Native Language

English: Advanced

French: Intermediate Listener, Intermediate Speaker, Advanced Reading and Writing

OTHER

Interests: Soccer, Football, Food, Piano.

November 25, 2022