Andrew **Bartnik**

Research Associate

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Broadly educated researcher with an insatiable curiosity and passion for natural systems and data driven insights into their functions.

Education

2015-08 - 2020-05

Bachelor of Science: Environmental Science

University of Arkansas, Fayetteville - Fayetteville, AR

- Relevant Coursework Completed: Oceanography, Soil Science, Water Science, Soil Classification and Genesis, Wetland Soils, Environmental Science + lab, Geology +lab, Geographic Information Systems, Soil Science + lab

2015-08 - 2020-05

Bachelor of Arts: Chemistry

University of Arkansas, Fayetteville - Fayetteville, AR

- Research Project: Developed a microfluidics laboratory exercise, [Lab has been implemented in the University of Arkansas Analytical Chemistry Laboratory Curriculum since Spring 2019]
- Relevant Coursework Completed: Organic Chemistry I + lab, Organic Chemistry II + lab, Analytical Chemistry, Physical Chemistry +lab, Biochemistry

2015-08 - 2020-05

Bachelor of Arts: Biology

University of Arkansas, Fayetteville - Fayetteville, AR

- Relevant Coursework Completed: Genetics + Lab, Cell Biology, Ecology + Lab, Evolutionary Biology, Microbiology + Lab, Astrobiology, Bioinformatics and Genomics

2015-08 - 2020-05

Minor: Mathematics

University of Arkansas, Fayetteville - Fayetteville, AR

- Relevant Coursework Completed: Calculus I-III, Ordinary Differential Equations, Partial Differential Equations, Introduction to R

2015-08 - 2020-05

Minor: Physics

University of Arkansas, Fayetteville - Fayetteville, AR

- Research Project: E.Coli growth under Europan conditions, Spring 2020

Publications & Academic Achievements

1) Homogeneous nucleation of nitrogen bubbles is unlikely in the lakes on Titan. Pradeep Kumar, Y. Patel, V. F. Chevrier, and **Andrew Bartnik**
2) Thermodynamics of Amino Acid Synthesis in Enceladus' Hydrothermal and Seawater Systems. Xi Chen, Daniel Molland, Andrew Bartnik, Jihua Hao, and Chris Glein (In Progress)

Cumulative GPA: 3.9
Dean's List: Spring 2020, Fall 2018, Fall 2017, Spring 2017, Fall 2016, Spring 2016
Chancellor's List: Spring 2020, Fall 2018, Fall 2017, Fall 2016

Certifications

2021-11 IBM Data Science - Developed and honed hands on skills in Data Science and Machine Learning. Used Data Visualization, Analysis, SQL, and created Machine Learning Models that culminated in a Capstone Project.

Work History & Research Experience

2021-09 - Current

Visiting Research Scholar (Remote)

Blue Marble Space Institute Of Science, Seattle, WA

- Used EQ6 to model fluid mixing chemical conditions
- Performed thermodynamic calculations of amino acid synthesis using EQ6 generated data
- Collaborated with team of international researchers to publish research

2021-06 - 2021-09

YSP Research Associate

Blue Marble Space Institute of Science, Remote

- Worked with researchers globally to evaluate habitability of Enceladus
- Used Deep Earth Water (DEW) model to assess synthesis and stability of amino acids on Enceladus
- Synthesized data from current scientific literature and Cassini mission reports
- Attended various seminars, gave presentations, participated in discussions, completed ethics and communication modules, wrote articles.

2020-01 - 2020-08

Research Assistant

Kumar Lab, Fayetteville , AR

- Planned, modified and executed research techniques, procedures and tests.
- Practiced aseptic technique to assess bacterial growth curves under Europan pressure and salinity conditions
- Synthesized data compilations to assess results
- Frequently used equipment including spectrophotometers, compound digital microscopes, incubators, hot plates, different bacterial medias

2017-08 - 2018-08

Research Assistant

Paul Lab, Fayetteville, AR

- Designed a colorimetric analysis experiment using concentrations of Iron and Copper to identify unknown sample concentrations
- Designed a functional microfluidic "chip" using standard laboratory materials
- Experiment has been implemented into University of Arkansas' Analytical Chemistry laboratory curriculum since Spring 2019
- Effectively communicated with laboratory supervisor to ensure project goals were met

2014-10 - Current

Bartender

Shady's Burgers, Richardson, TX

- Attained extensive bar/kitchen menu knowledge, was confident in recommendations for customers
- Became well-versed in liquor distribution practices and local liquor preferences
- Upsold menu items to customers, driving up per sale revenues and maximizing profits, frequently sold upwards of $1000 of food + beverages per shift
- Succeeded in performing restaurant managerial roles as needed

Skills

Data Visualization with Python

Data Analysis with Python

SQL

Machine Learning with Python

Python Programming

R Programming