

Blaine Heffron

Personal Information



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Summary

- Physics PhD with over 10 years of programming, scripting, and research experience.
- Research specialties include data analysis, simulation, and machine learning techniques.
- Interests include statistical analysis and machine learning techniques applied to data analysis.
- Self-taught web developer engaged in consulting and full stack development work on various websites/apps.
- CTO for Algorhythmic Labs producer of Songcraft - an educational music game for children.

Education

08/2019 – 02/2023
Knoxville, United States

Physics | PhD
University of Tennessee

08/2014 – 01/2017
Knoxville, United States

Physics | MS
University of Tennessee

08/2008 – 05/2012
Chapel Hill, United States

Physics | BS
University of North Carolina

Work Experience

02/2023 – present
Charleston, United States

Full stack developer & Technical consultant
self employed

- Contracting work for resolving website issues for various clients, improving site functionality and boosting SEO ranking.
- Built a web app incorporating Google Sheets with a wedding planning interface to streamline event management
- Received positive feedback from dozens of users regarding web app functionality
- Lead Full Stack Developer for an educational music game for children – songcraftgame.com.

08/2019 – 02/2023
Knoxville, United States

Graduate Research Assistant
University of Tennessee

- Planned and carried out experiment to determine energy spectrum of reactor
- Significantly improved understanding of the spacial variation and sources of gamma backgrounds.
- Conducted machine learning analysis using PyTorch to enhance neutrino signal for PROSPECT experiment, increasing effective statistics by over 3%.
- Mentored several undergraduates and graduate students

Work Experience

01/2017 – 08/2020
Charleston, United States

Full stack developer self employed

- Designed and produced multifaceted websites and web applications for diverse clients
- Enhanced user experience and interaction by implementing responsive design principles and increasing SEO ranking.
- Successfully maintained and updated the commercial website wythehotel.com for over 3 years, ensuring optimal performance, user engagement and consistent uptime.
- Co-developed and co-founded Staqqr, a platform for auctioning video game services.

03/2018 – 08/2019
Chapel Hill, United States

Technical support engineer CData Software

- Provided technical support for database software services provided by CData.
- Earned promotion to lead support engineer, overseeing high priority clients.
- Developed software to integrate with Open API specified products

Awards

05/2016

Extraordinary Professional Promise University of Tennessee

<https://honorsbanquet.utk.edu/2016-extraordinary-professional-promise/>
awarded to undergraduate and graduate students who demonstrate professional promise in teaching, research or other contributions.

05/2016

Stelson Fellowship University of Tennessee

<http://www.phys.utk.edu/alumni-friends/awardees-graduate.html>
Outstanding beginning research at ORNL

Skills

- PROGRAMMING

Python



C++



Javascript



Machine Learning



- RESEARCH

Public Speaking



Detector Modelling



Scientific Writing



Radiation Detection



- DATA SCIENCE

Statistical Analysis



Data Warehousing



Data ETL



Data Mining



Strengths

Analytical

problem-solving

programming

statistical

communication

research