

Zac Freeman
zpf14@my.fsu.edu

Education

B.S. in Physics | Florida State University

August 2014 - December 2017

- GPA: 3.889
- Minor: Mathematics
- Additional Coursework: Data Structures and Algorithms, Partial Differential Equations, Object Oriented Programming, Communication in Physics

Experience

Software Developer II | Frontdoor

October 2018 - Present

- Led the software development for a security initiative, implementing reCAPTCHA for login and registration, session token handling, email verification, and ADFS SSO into a legacy ATG B2B site
- Integrated a 3rd party payment processor to meet new PCI standards for a legacy ATG B2B site
- Designed and built a microservice with Go and Docker to enable B2B clients to place orders in database without interacting with legacy ATG B2B site

Research Assistant | UAH Heliophysics

May 2017 - August 2017

- Created a model of gamma rays in a magnetic trap with the goal of reproducing real world data
- Used C++, CUDA, and the Runge-Kutta method to simulate many parallel gamma ray systems on a selection of NVIDIA GPUs
- Analyzed data produced to discover novel behavior of cosmic rays inside expanding magnetic traps

Research Assistant | FSU Math Department

June 2016 - August 2016

- Created simulation of the flow of two liquids in a closed system with the goal of confirming the accuracy of results published in *Physica*
- Used MATLAB and numerical methods for partial differential equations to generate 1D and 2D simulations and analyzed the physical accuracy of the data using energy conservation and the maximality principle
- Results from simulations contributed to the paper *Maximally Preserving Finite Difference Schemes for the Allen-Cahn Equation using Operator Splitting*, presented at SIAM-SEAS 2017

Skills

Languages	Go, Java, Javascript, C++, Python, C#, SQL, LaTeX, CUDA, MATLAB
Software	Windows, Linux, Docker
Soft Skills	Written and Spoken Communication, Pragmatic Perspective, Quick Learner