

Jeffrey Zhang

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EDUCATION

University of Maryland, College Park, MD

GPA: 3.728/4.00

B.S Computer Science and Mathematics

Expected: May 2023

College Park Scholars, Science and Global Change

Citation: May 2021

Relevant Coursework: (Not official names but description of content material)

Computer Science: Data Structures and Abstractions, C and Assembly Language, Organization of Programming Languages, Introduction to Data Science, Advanced Data Structures, Design and Analysis of Computer Algorithms, Introduction to Machine Learning, Computer Architecture

Mathematics: Discrete Mathematics and Probability Theory, Calculus Based Statistics, Linear Algebra, Multivariable Calculus, Introduction to Probability Theory (Calculus Based), Introduction to Statistical Computing with SAS, Differential Equations, Advanced Calculus (Introduction to Real Analysis), Mathematics of Finance

SKILLS

Programming Languages: Java, Python, C++, C, Ruby, Rust, HTML/CSS/JavaScript, Ocaml, SAS, MATLAB, AVR Assembly, MIPS Assembly

Framework/Technologies: Bootstrap, Node.js, MongoDB, NumPy, Pandas, Matplotlib, Seaborn, Scikit-Learn, SciPy

RELEVANT PROJECTS AND EXTRACURRICULARS (CLUBS)

UMD Scholars Practicum Project

November 2020 - May 2021

- Worked with Professor William Gasarch on the topic of "Breaking a Random Number Generator as a way to Break a Cryptosystem"
- Studied runtimes of factoring algorithms such as Pollard Rho, Quadratic Sieve, and General Number Field Sieve

Does a Film's Genres Determine its Success?

August 2020 – December 2020

- Final Project for CMSC 320 (Introduction to Data Science) where we're allowed to collaborate with other students
- Determined there is a correlation between film genres and film success (ratings) using unsupervised machine learning models, Anova, and Chi-Squared Tests from IMDB's film data

UMD Prescription for Happiness Tech Board Member

August 2020 - Present

- Designed a dynamic website for the club with other Tech Board Members using Node.js to build user interfaces
- Currently making a children's app that teaches children important mental health concepts (ie how to improve their habits)

Business Catalog Searcher Website

May 2020 - August 2020

- Built a dynamic website where users can access business' catalogs without the hassle of navigating different websites and interfaces
- Implemented the Google Maps API, allowing customers to find their targeted businesses through Google Maps
- Applied HTML, CSS, and Bootstrap for front-end and utilized Node.JS, MongoDB for back-end

INTERNSHIPS, APPRENTICESHIPS, AND WORK EXPERIENCE

Perception and Robotics Group

Research Assistant

August 2021 – Present

- Working with Ph.D. student Kanishka Ganguly and another undergraduate student in the Autonomy Robotics Cognition (ARC) lab
- Currently looking at a bug in the positioning of a robotic thumb that hinders the robot from properly holding a cup of water

Mathnasium

Math Tutor

August 2021 – Present

- Helping K-12 students with their math proficiency and their math homework in the hopes of making math easier to understand

Parallel Software and Systems Group

Research Assistant

May 2021 – August 2021

- Worked on the longitudinal data analysis project with Dr. Abhinav Bhatele and Ph.D. student Siddharth Singh where we looked for anomalies in LDMS data from NERSC using machine learning models
- Read research papers on parallel computing systems and created python scripts that made it easier to do data analysis on the NERSC LDMS data

Johns Hopkins Applied Physics Laboratory

ASPIRE Student Intern

September 2018 – May 2019

- Generated a Python GUI that processes user inputted DC circuit values (voltage of battery, resistance of resistors) to derive and save results of the current to a file.
- Learned about random number generating systems such as Linear Feedback Shift Registers as well as prime factorization algorithms.

DRD Pool Management, Inc.

Lifeguard

May 2017 – August 2020

- Kept the pool clean by taking out the trash, adjusting the PH, skimming the water, and cleaning the bathrooms.
- Skilled in using CPR, rescuing distressed/drowning swimmers, handling spinal injuries, and stopping severe bleeding.

Waverly Woods Swim Team

Assistant Swim Coach

May 2017 – July 2019

- Coached kids of all ages during their morning swim practice, 3 days a week, 2 hours per day, for 8 weeks.
- Helped enter entries, set up swim meets, and kept track of times