

James Heneghan

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EDUCATION

- **University of Notre Dame** Notre Dame, IN
B.S. in Computer Science; Cumulative GPA 3.93/4.0, Deans List All Semesters Aug 2018 - May 2022
 - **Relevant Coursework (Completed):** Systems Programming, Data Structures, Data and Artificial Intelligence Ethics, Computer Architecture, Intro to Probability, Modern Web Development
 - **Fall 2020:** Data Science, Network Science, Cryptography, Theory of Computing, Design Thinking
- **Fenwick High School** Oak Park, IL
High School Diploma with Honors; GPA 4.62/4.00 ACT 36 June 2018

EXPERIENCE

- **Notre Dame Mobile Computing Lab** University of Notre Dame
Undergraduate Research Assistant Fall 2019 - Spring 2020
 - **“Painted Dogs”:** Two semester undergraduate research position in Mobile Computing Lab. Used serverless stack to develop custom web service and API that allows users to upload photographs of and track wild animals in Mozambique. Uses machine learning and computer vision techniques to match fur patterns to a database.
- **Hinsdale Community Pool** Hinsdale, IL
Lifeguard Summers 2017-2020

PROJECTS

- **Tennis ELO Prediction Model:** Developed a modified ELO algorithm which takes into account non-traditional aspects of ELO predictions such as margin of victory and level of tournament, and gives each player a win probability. Achieved 70% accuracy.
- **FPGA-Based Snake Game:** Created a hardware-based snake game on an FPGA using Verilog. Built using a high-level state machine and various RTL design methods.
- **Forking Web Server:** Developed forking web server in C which supports directory listings, static files, and CGI scripts and uses Bootstrap for front end. Set up hosting in a virtual private server.
- **AngularJS Web Application:** Created a routed web application to match students with tutors using angularJS frontend, NoSQL database, and NodeJS backend. Implemented Twilio API for email and SMS messaging. Used Firebase for authentication.

ACTIVITIES AND INTERESTS

- **iTREDS Scholar:** Interdisciplinary Traineeship for Socially Responsible and Engaged Data Scientists. Two year selective program involving 5 courses and a capstone project.
- **Student Athlete Tutor:** Calc 3 Tutor for Student Athletes
- **Actuary Exams:** Exam P passed July 2020
- **International Experience:** Berlin Summer Engineering Program 2019, Lived in China 3 years, scheduled to Study Abroad in Hong Kong Spring 2020
- **Notre Dame Men’s Water Polo:** Nationals Qualifier, Conference Champion
- **Interests:** Sabermetrics, Music Production, Sailing, Open-source Software, Probability Theory

TECHNICAL SKILLS

- **Languages:** C/C++, Python, JavaScript, Verilog, Assembly, Bash, Matlab
- **Technologies:** Linux/Unix, AWS Lambda, Git