

CONOR MURPHY

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EDUCATION

University of Notre Dame

College of Engineering, B.S. Computer Science; GPA: 3.64

Notre Dame, IN

Aug. 2018 - May 2022

Relevant Coursework: Compilers and Language Design, Systems Programming, Databases, Data Structures, Algorithms

In Progress: Machine Learning, Web Development, Operating Systems

SKILLS

• **Languages:** C, C++, Python, JavaScript, TypeScript, SQL, HTML/CSS

Technologies: Angular, Git, OOP, D3.js, Linux/Unix

EXPERIENCE

Zebra Technologies Corporation

Application Development Intern

Lincolnshire, IL

May-August 2021

- Participated in Agile development for a production search application on Zebra.com that will ship in fall 2021
- Owned search backend indexing using Apache Solr and Salesforce.com that enables discovery of over 10,000 3rd-party partners and application offerings

Chaoli Wang Lab, University of Notre Dame

Deep Learning and Data Visualization Researcher

Notre Dame, IN

August 2020-Present

- Utilized the D3.js Javascript library to build data visualization tools
- Developed [novel visualizations](#) to compare adding hierarchical and historical information to Sankey diagrams
- Co-authored [Hierarchical Sankey Diagram: Design and Evaluation](#). In *Proceedings of International Symposium on Visual Computing*, Oct 2021
- Building deep learning models to predict high quality images from alternative viewpoints for 3-dimensional scientific simulations

The Graduate School, University of Notre Dame

Graduate Enrollment Management Student Assistant

Notre Dame, IN

August 2019-May 2020

- Handled initial review of 2019-2020 application rounds
- Designed various materials for official communication to potential applicants

Office of the Executive Director, Center for Social Concerns, University of Notre Dame

Student Administrative Assistant

Notre Dame, IN

September 2018-May 2019

- Gathered preliminary information relevant to upcoming research proposals
- Prepared marketing and organizational materials for the Center's internal
- Completed various administrative tasks under direction from the Executive Director/Executive Assistant

PROJECTS

playruski.com ([Github](#))

CSE 30246:Databases

Notre Dame, IN

February 2021-Present

- Developed a full-stack social app with fellow students using MongoDB, Express w/GraphQL, Angular, and Node.js (MEAN stack)
- Implemented various features for the web app by writing Angular components and services and custom GraphQL queries
- App currently has over 150 users

B-Minor Compiler

CSE 40243: Compilers and Language Design

Notre Dame, IN

August-November 2020

- Built 4 stages of the compiler toolchain for a C-like language
- Implemented formal language theory concepts including regular expressions and context-free grammars for tokenizing and parsing input programs using Flex and GNU Bison to ensure correct grammar and syntax
- Wrote C code to produce consistently formatted representation of programs as well as verify that type assignments are correct and the program can be represented with valid assembly code

Spidey.c Webserver

CSE 20289: Systems Programming

Notre Dame, IN

April-May 2020

- Worked with one other student to build an HTTP 1.0 webserver in C that can accept traffic in single or forking mode
- Functionality includes serving/traversing directory listings, displaying images and txt files, and running bash/Python CGI scripts
- Utilized an AWS instance to run the server permanently and accept global traffic

CrossReference ([Github](#))

Personal Project

Chicago, IL

March 2020

- Developed a Python CLI tool to cross reference films on Letterboxd watchlists with preferred streaming services
- Gained experience in using Python libraries to perform webscraping and making API requests

MATLAB Battleship AI ([Github](#))

EG10112: Intro to Engineering II

Notre Dame, IN

Spring 2019

- Worked with a student team to develop attack algorithms for the board game Battleship in MATLAB
- Implemented comprehensive GUI to allow users to run tests of each algorithm and visualize results over hundreds of games at once, as well as visually represent a full game in realtime with each algorithm