Hollis Holmes

https://hollisholmes.github.io/

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EDUCATION

COMPUTER SCIENCE | MIT edX | see more

- 700+ structured hours of learning MIT's computer science curriculum
- Object oriented design, data structures, algorithms and more

BACHELOR OF ENGINEERING | Queen's University, *First Class Honours*

- Applied Mathematics Engineering

CERTIFICATE IN BUSINESS | Smith School of Business, *First Class Honours*

- Finance & Accounting to supplement engineering degree

TOOLS

DATA: Python, SQL, JavaScript, Git, MATLAB, Office Applications and VBA

DESIGN: HTML, CSS, Simulink, ANSYS, Creo 4.0, Auto CAD

WORK EXPERIENCE

DEPARTMENT OF NATIONAL DEFENCE | Undergraduate Research Assistant *January 2020 – April 2020*

- Built Monte Carlo simulation to assess militant shortfalls within the Canadian Armored Divisions
- Leveraged probabilistic analysis techniques and integrated industry research to build the model

CIENA | Engineering Design Intern *September 2018 – December 2018*

- Redesigned mechanical interface using Creo 4.0, performed stress analysis using ANSYS
- Ran thermal tests on motherboard hardware to evaluate thermal dissipation efficiency
- Designed and 3-D printed test jigs, implemented hardware modifications to motherboards

BROOKFIELD ASSET MANAGEMENT | Project Management Intern *May 2018 – August 2018*

- Transitioned from intern to leader in finance meetings on 5 projects valued over $5 million
- Managed weekly data analysis for performance indicators delivered accurately to clients

EXTRACURRICULAR PROJECTS

MACHINE INTELLIGENCE & NEUROEVOLUTION DESIGN TEAM

- Developed codebase for autonomous vehicle simple highway travel and lane changes
- Implemented image processing functionality and regression analysis for lane identification
- Design Showcase Winner: Best design process and vehicle performance results

ENGINEERING MANAGEMENT COMMITTEE

Finance Manager

- Managed team of engineering students and finances for events attended by 1000+ students
- Fostered an inclusive growth environment

UNDERGRADUATE THESIS *"Discrete-Time Controlled Closure of the Aortic Valve Using Blood Vortices"*

- Researched and modelled formation of blood vortices in the left ventricle
- Designed linear state feedback controller to optimize closure time of aortic valve

PERSONAL PROJECTS

PATHFINDING VISUALIZER

- Game board implemented using object-oriented design principles in Python
- Implemented maze creation and graph search algorithms (A*, Dijkstra, DFS, BFS)

PROGRAMMING LANGUAGE & INTERPRETER

- Built LISP programming language and its interpreter in Python
- Implemented: conditionals, functions, variable declaration, environment model, list data structure, error handling, etc.

PHILOMATHY

- 700+ hours learning MIT CS curriculum
- 4-Course Python and SQL Certification
- Machine Learning, Coursera (Stanford)
- Databases and SQL for Data Science (IBM)