



CHRIS FERNANDES

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Education

University of Toronto

Bachelor of Science in Computer Science

Sep. 2019 – Current

Mississauga, ON

Relevant Coursework

- Software Tools
- Software Design
- Data Structures
- Computer Organization
- Theory of Computation
- Computer Science
- Systems Programming
- Run-time Analysis

Experience

Code Ninjas

STEM Instructor

June 2021 – Current

Vaughan, ON

- Taught students the basics of object oriented programming in Javascript and other STEM activities.
- Took a leadership role by developing safe and friendly environments.
- Communicated effectively and created a dynamic learning experiences for students.

Projects

Treemap Visualization Algorithm | *Python, Pygame, JSON, OS library*

- Interactive treemap visualization tool to visualize the size of files as a hierarchy.
- Utilized principles of object oriented programming such as abstraction and inheritance to create a commonality of the treemap and recursion to create the geometric rectangular file hierarchy.
- Used pygame library to create an interactive GUI to display the file hierarchy, OS library module to manipulate the operating system's files, and analyzed JSON data of World Population which contained complex dictionaries, debugged with the use of PyCharm's debugger.

Transit Fare System Simulation | *Java, JavaFX, Git, Agile Scrum*

- Simulated Transit Fare System with user account creation/management, fare purchase, register transit cards, administration system, funds/balance system.
- Used JavaFX library to build an interactive GUI and several design patterns such as Model View Controller (MVC), Observer-Observable to show the relationship between the GUI, fare system and the administrators.
- Created a product backlog to assign and complete tasks in sprints using agile scrum development with concise management of code through the usage of git.

Xmodem Server | *C, Sockets, File Descriptors, Network Communication*

- Developed an xmodem server for file transfer protocol to be able to connect xmodem clients and send files using the xmodem protocol in C.
- Server adds clients requesting connection, accepts multiple connections, manages and removes clients after file transfer protocol is complete.
- Utilizes file descriptors and sockets to communicate files sent between the client and the server, sending either 128 byte or 1024 byte packets across the network
- Error detection and security implemented through the usage of "checksum" method and Cyclic Redundancy Check (CRC) method.

Technical Skills

Languages: Python, Java, JavaScript, C, C#, HTML/CSS

Developer Tools: VS Code, GitHub, PyCharm, Eclipse, MARS 4.5, Logisimm

Technologies/Frameworks: Linux, JavaFX, Git, Pygame, Agile, Scrum

Leadership / Extracurricular

Youth Leadership Program

Youth Leader

Jan 2017 – Sept 2018

YMCA

- Attended year long program to develop my leadership skills and was given the opportunity to have a positive impact on the youth.