Brian Horner

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EDUCATION

Northeastern University, Boston, MA GPA - (3.2 / 4.0) December 2024
Masters of Science in Computer Science
Main Courses: Intensive Computer Systems, Computer Graphics, Computer Networking, Robotic Science and Systems, Cloud Computing

BU-Metropolitan, Boston, MA GPA - (3.85 / 4.0) June 2022
Undergraduate Certificate in Computer Science
Main Courses: Computer Architecture, Data Science with Python, Data Structures and Algorithms, Software Engineering

Suffolk University, Boston, MA GPA - (3.2 /4.0) January 2019
Bachelor of Science in Government & History
Main Courses: Physics, Programming for Engineers, Government Statistics

TECHNICAL SKILLS

Programming Languages: C++, Python, C, Java, Javascript, Racket, Bash
Tools and Platforms: Git, Linux, Conda, CMake, GDB, Singularity Containers, AWS, Jupyter Notebooks
Libraries and Frameworks: Pandas, Java Swing, JUnit, Berserk, PyQt5, Pygame, OpenGL, SKLearn

PROJECTS

En Passant Magic Chess Set, (Python, Multithreading, APIs, PyQt5, Berserk) January 2024 - May 2024
https://tinyurl.com/EnPassantDemo
A simulation chess board designed for real-time synchronized game play with online chess platform Lichess.

- Contributed to a 4 member team project by developing API connection interfaces with Lichess for enabling integration with the simulated chess board, synchronizing board with current game state, sending simulation chess board moves to the online platform with move checking, and continually retrieving opponent moves for display on the simulation.
- Created custom PyQt5 QRunnable threads classes which featured specialized slot functions for signal handling that facilitate both single-action and continuous interactions with the Lichess API, effectively circumventing PyQt5 problems with long running threads, inter thread communication and a continuing running GUI that maintains a consistent state with the Lichess platform.

Image Manipulation Application, (Java, Java Swing, JUnit, UML Diagrams, MVC Design Pattern, Jira) January 2023 - May 2023
https://github.com/Brian-T-Horner/Image-Manipulation-App
An image processing application with an interactive GUI interface that allows users to apply various manipulations to images.

- Co-developed an imaging processing application utilizing an MVC design pattern while using Jira and UML diagrams for project management.
- Application enables image loading, saving, dithering, flipping, blurring, sharpening, brightening, and color transformations (greyscale, sepia, mosaic, luma, and individual RGB component images).
- Conducted extensive unit testing with JUnit to ensure 99% reliability and robustness of the applications features and functionalities.

Semantic Segmentation of 3D Point Clouds, (Singularity Container, Python, Bash, Colmap, CUDA, Point-Clouds) January 2023 - May 2023
https://github.com/Brian-T-Horner/Colmap-Pipeline
A pipeline for the reconstruction of 3D Point Clouds using Colmap and CUDA on Compute Canada.

- Built a pipeline for the segmentation of 3D Point Clouds on Compute Canada's high-performance compute (HPC) system.
- Collaborated with a group of 10+ researchers and faculty from University of Victoria and Northeastern toward the presentation and publication of novel ideas in the research space for Canada AI Conference 2023.

Direct-Mapped Write-Back Cache Simulation, (C++, Bitwise Masks & Shifts) March 2022
https://github.com/BrianHorner-School-Work/Direct-Mapped-Write-Back-Cache-Simulation
A direct-mapped, write back cache simulation that follows LRU and FIFO replacement strategies.

- Implemented a cache simulation with mechanisms for cache operations such as reading, writing and displaying the cache.
- Utilized bitwise masks and shifts as well as valid bits, tags, dirty bits in order to implement a direct-mapped write-back cache.

WORK EXPERIENCE (Selected Experience)

Lawson & Weitzen Boston, MA
Paralegal February 2025 - Current

- Took ownership of approximately 20 monthly residential and commercial closings, significantly reducing attorney's workload and enabling increased focus on client acquisition and marketing, which is contributing to a steady rise in monthly transactions.
- Improved overall transaction efficiency by improving document drafting and review, financial document preparation, communication with lenders and opposing counsel, acquisition of documents needed for each transaction, and other tasks that enable a higher daily volume of closings without sacrificing thoroughness and accuracy.

Dunning, Kirrane, McNichols & Garner, LLP Mashpee, MA
Paralegal September 2020 - October 2022

- Collaborated exclusively with the head partner to increase the firm's commercial real estate transaction operations through improved processes efficiency, impeccable loan document drafting accuracy, and lender satisfaction, which doubled the firm's commercial loan transactions.
- Managed key transactions, ensuring all parties met critical milestones for timely, successful loans for amounts up to 15 millions dollars.
- Enabled successful completion of lender's urgent commercial real estate loans requests by reducing labor hours needed from 60 hours to 20 hours on average per loan transaction.

(Additional experience available upon request)