Logan Stoltz

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Education

Eastern Washington University — Fall 2019 – Fall 2024

Bachelor of Science in Computer Science / Minor in Cyber Security

- GPA: 3.2

- **Coursework:** Object-Oriented Programming, C & Unix Programming, Microcontroller Systems, Data Structures, Algorithms, Realational Database Systems, Operating Systems, Computer Networks, Automata & Compilers, Digital Circuits, Calculus I/II, Linear Algebra, Discrete Mathmatics, Probability & Statistics, Data Mining, Network Security, Secure Coding, Computer Graphics & Data Visualization, C++ Programming, & Web Application Development.

Projects

Data Structure Visualizer (*HTML, CSS, JavaScript*) — Spring 2024

- Designed and developed a web platform to help students explore data structures such as Stacks, Doubly Linked Lists, Binary Search Trees, and MaxHeaps through interactive visualizations that demonstrate changes during key operations. Contributed to both front-end and back-end development.

- Implemented user authentication with account creation, log-in, and personalized navigation on the home page, dashboard, and interactive data structure visualizers. The dashboard greets users with customized messages and features a progress tracking checklist saved upon logout.

- Each data structure page supports core functions relevant to the specific structure, offering real-time visual feedback and detailed informational modals.

- Tools Used: Firebase, Git, Visual Studio Code

CYK Parser (*Java*) — Fall 2024

- Developed a program that uses the Cocke–Younger–Kasami (CYK) algorithm to process text input containing Context-Free Grammars (CFGs) and evaluates strings to determine whether they belong to the languages defined by the corresponding CFGs.

- Implemented features for building a CYK Table and applying language membership tests based on the CYK parsing algorithm.

- The program has a time complexity of $O(n^3 \cdot |G|)$, where n is the length of the input string and $|G|$ is the size of the grammar.

- Tools Used: Java, Github

LL(1) Parser (*Java*) — Fall 2024

- Developed a program that uses the LL(1) algorithm to process text input containing context-free grammars (CFGs) and evaluates strings to determine whether they belong to the languages defined by the corresponding CFGs.

- Implemented features for computing the FIRST and FOLLOWS for each non-terminal, constructing an LL(1) Parse Table to compute whether the grammar is in LL(1), and then applying language membership tests based on the LL(1) parsing algorithm.

- Tools Used: Java, Github

Skills

Languages: Java, JavaScript, C, C#, C++, Python, SQL, R, CSS, HTML, LaTeX
Technologies: Visual Studios Code,Visual Studios, MySQL Workbench, Git, IntelliJ, RapidMiner, Wireshark, Ubuntu/Kali Virtual Machines.