

Spencer Bone

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SKILLS AND TOOLS

Languages: Java, C, Python, Kotlin, Scala

Tools: GitHub, Docker, Android Development Studio, RISC-V, Eclipse Memory Analyzer

Skills: OOP, Functional Programming, App Development, OS, Full-stack, Testing, Communication

PROJECTS

PintOS – Updating a Basic OS

January 2024–Present

- Fluid communication between four team members utilizing version control via GitHub.
- Implementing additions to a basic OS in C (including process scheduling, implementing system calls, advancing the file system, etc.)
- Process Scheduling entailed making a timer for threads and CPU balancing between processors to reduce idle times of executing threads. Implementing system calls involved putting the arguments of the call on a child processes stack, as well as taking those arguments to execute specific system calls.

Fancy Gallery – Android Photo Database App

November 2023–December 2023

- A Solo Project in Kotlin in Android Development Studio
- Networking and an SQL database were used to make it possible to see photos uploaded live to an online database website
- Utilized multiple fragments to make it possible to switch between landscape and portrait, as well as a fragment for geographical location (obtained from photos in database to show where photos were taken)

Skip List – A Binary Tree in a Linked List

November 2022–December 2022

- A two-person project implemented in Java
- In order to make a linked list more efficient, we combined a linked list with a binary search tree of pointer to create a list that uses pointers in the nodes to skip around inserted items to find what is needed at $O(\log(n))$ rather than $O(n)$
- Heavily utilized complex pointers for insertion and removal of linked list nodes to ensure the structure of the binary tree aspect were kept intact

EDUCATION

Virginia Polytechnic Institute and State University (Virginia Tech)

Blacksburg, VA

Bachelor of Engineering, Computer Science, Minor in Economics and Mathematics

August 2020–May 2024

Cumulative GPA: 3.70 / 4.00 Major GPA: 3.80 / 4.00

Dean's List: Fall 2020 – Present

Virginia Polytechnic Institute and State University (Virginia Tech)

Blacksburg, VA

Masters of Engineering, Software Engineering, Networking

August 2024–May 2025

Cumulative GPA: 4.00 / 4.00 (As of Feb 2024 via Accelerated Masters Courses)

EXPERIENCE

Undergraduate Teacher's Assistant

Virginia Tech, VA

CS3304 Comparative Languages

August 2023–May 2024

- Aided students in their learning of different programming languages such as Pascal, C++, PROLOG, Golang, Scala, Haskell, and Ruby
- Helped students learn important concepts like functional programming, parse trees, interpreters, and in depth recursion which were paired with languages that were better tools for such paradigm (i.e. Scala for functional programming).

Kroger Produce Associate

Blacksburg, VA

May 2022– September 2023

EXTRAS

Outside of School Hobbies: Weightlifting, Boulderling, Video Games, Trying to learn Game Engines (Godot \ Unity)

Favorite Electives: Quantum Computation, Cryptography, Computer Music (Programming Music)