

Joel Peckham

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EDUCATION

- **Bachelor of Science - Computer Science**

Southern Adventist University

Collegedale, TN

Aug 2018 - May 2022

Key Courses: Operating Systems, Data Structures and Algorithms, Artificial Intelligence, Networking, Databases, Organization/Architecture/Assembly Language, Linear Algebra, Discrete Mathematics, Differential Equations, Statistics

PROJECTS (SOFTWARE EXPERIENCE)

- **Neural Network Visualizer:** Implements a neural network from scratch in the browser with 25 input nodes, variable hidden nodes, and 10 output nodes. The user can watch the network learn iteration by iteration. Tech: HTML, CSS, Javascript, HUGO, Netlify.
- **8 Puzzle Solver:** Solve 8 puzzles while learning about search algorithms! Implements A* Search, Greedy Best-First Search, & Breadth First Search. The user can also choose between the Manhattan Distance and Hamming Distance heuristic functions. Compare the performance characteristics of different search methods. Tech: HTML, CSS, Javascript, HUGO, Python.
- **GPT-Powered Stock Trading Research:** A research project to see if a transformer model can be used as an all-in-one news-based trading bot. This involved scraping 90,000 news articles from the web and training a 6 billion parameter neural net on Google's TPU Research Cloud. Tech: TensorFlow, JAX, Python, Web Scraping, TPU.
- **Interactive FORTH interpreter in Python:** The core of this tiny FORTH interpreter takes only 130 lines of python. Add a few built-ins for convenience, and the entire programming language and interactive REPL take 480 lines. This tiny project is great for anyone trying to wrap their head around Abstract Syntax Trees, lexical analysis, and interpreter construction. Tech: Python, FORTH.

PROFESSIONAL EXPERIENCE

- **Miller Farm Inc.**

Vernon, VT, USA

Marketing Consultant & Farm hand

2020 - 2022 (Summers)

- **Impact:** Played a key role in transitioning the farm to a vertically-integrated business model.
- **Packaging & Logo Design:** Designed a brand identity and flavored milk bottle labels
- **Infrastructure Upgrades:** Replaced networking across farm, upgraded 120V & 240V electrical systems
- **Farm Tasks:** Milked cows, threw hay, weed-whacked fence-line, etc.

- **Fasttrack VC**

Lisbon, Portugal & Whistler, BC, Canada

Media Consultant (Contractual)

2017 - 2018

- **Director & Videographer:** Oversaw video ad production from script through the edit. Managed complicated sets such as helicopter shoots.
- **Food Photographer & Social Media Manager:** Created and managed media for the restaurant Eight Health Lounge. Included a photo menu and Instagram posts.
- **Impact:** Grew Instagram following from 0 to 5K.

TECHNOLOGY EXPERIENCE

- **Languages:** JavaScript, Python, PHP, C, C++, C#, Swift, SQL, Bash
- **Frameworks:** React, Electron, SwiftUI, TensorFlow, NodeJS, LAMP
- **Tools:** GIT, MSSQL, MySQL, Photoshop, Illustrator, InDesign
- **Platforms:** Linux, Web, Windows, MacOS, iOS, Arduino

VOLUNTEER EXPERIENCE

- **Violin and Music Teacher**

Khon Kaen, Thailand

Instructed 100+ students in basic violin and music theory and organized local music events.

April 2017

- **Medical Event Organizer and Aid**

Ulaanbaatar, Mongolia

Aided in the organization and implementation of health check-up clinics for the under-served.

May 2017