LUKE COLOMBO

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Education

Northeastern University, Khoury College of Computer Sciences   **Boston, MA**
Candidate for B.S. in Computer Science & Cognitive Psychology   May 2025
GPA: 3.7/4.0, Dean's List
Relevant Coursework: Software Engineering (TypeScript), Natural Language Processing (Python), Database Design (MySQL), Networks & Distributed Systems, Algorithms & Data Structures (LaTeX)

Technical Knowledge

Languages: Java | Python | MySQL | JavaScript | React | Scheme/Racket | LaTeX | Bash
Software: PyTorch | OpenCV | Visual Studio Code | Microsoft Excel | SPSS Statistics
Skills: Git | TCP/IP | Linux Command-Line | HTTP | Neural Networks | NoSQL | NLP | OOD

Work Experience

Agrofocal *Software Engineer*   San Francisco, CA | May 2024 — Present
- Contributed to developing AI-driven crop monitoring software for agricultural efficiency and sustainability
- Utilized Linux command-line scripts to evaluate and improve computer vision models for crop detection, increasing accuracy with advanced filtering techniques
- Collaborated on end-to-end development of a ground detection neural network, including data collection, training, evaluation, and post-processing
- Integrated and optimized the above model, maintaining accuracy while making it run 50% faster

Digital Ready *Computer Science Studio Manager*   Boston, MA | Jul. - Dec. 2023
- Supervised and mentored 40 high-school students in a Computer Science Bootcamp course
- Organized daily lectures and activities; created a curriculum focused on innovation and problem solving
- Oversaw deliverables such as a Python card game project, OpenCV robotics project, and Google certificates in IT and UX Design

Personal & Academic Projects

Settlers of Catan Agent   Dec. 2024
- Created a Q-learning agent to play a simplified version of Catan, choosing action based on game state
- Built a simulator in Python for handling game logic, used Pygame module for a GUI

Spreadsheet   Nov. 2024
- Designed a TypeScript-based spreadsheet application with an interactive React frontend, following OOD principles and the Agile design process
- Implemented conditional formatting, dynamic chart generation, and LLM-driven predictive autofill

Animal Shelter Database   Apr. 2024
- Developed an system to track animals, applications, and staff at an animal shelter using a SQL database
- Utilized MySQL for back-end procedures and triggers, Python for front-end functionality via a command-line interface with unique views for managers, volunteers, and visitors

Connect Four   Feb. 2023
- Simulated Connect Four in Java using MVC architecture and a GUI made with the Swing library
- Incorporated the strategy design pattern to add algorithms that let user play against the computer

Extracurricular Involvement

Tastemakers Magazine: Writer of editorials and commentary on the music industry, albums, and concerts
Interests: Proficient in Spanish, Jazz Piano, Mountain Biking, Urban Planning, Music Production, Basketball