

KERWIN LARROBIS

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SUMMARY

Sophomore Computer Science student at the University of Florida with a self-directed concentration in Artificial Intelligence and Machine Learning. Experienced in developing hands-on software and AI projects, including a voice emotion detection model and a C++ Minesweeper game. Passionate about applying data-driven and algorithmic approaches to solve real-world problems.

EDUCATION

University of Florida | Gainesville, FL Aug 2024 – May 2027

Bachelor of Science – Computer Science, Minor in Food Science, Self-Directed Concentration in AI/ML

Coursework: Programming Fundamentals 1 & 2, Data Structures & Algorithms, Computational Linear Algebra, Elementary Differential Equations, Applied Discrete Structures, Introduction to Computer Organization.

Gaither High School | Tampa, FL Aug 2020 – May 2024

High School Diploma – GPA: 3.98 | SAT: 1500 | AP Scholar with Distinction

Coursework: AP Computer Science A, AP Computer Science Principles, AP Statistics, AP Microeconomics, AP Macroeconomics.

SKILLS

Programming: Python (NumPy, Pandas, Scikit-Learn, Librosa, Matplotlib), C++, C#, Java, JavaScript, HTML/CSS, SQL

AI/Machine Learning: Supervised Learning, Neural Networks, Random Forests, Speech/Audio Processing, Model Evaluation

Web/Software Development: React, Next.js, FastAPI, Node.js, Express, PostgreSQL, Prisma, Docker, Git/GitHub

Systems & Theory: POSIX I/O, FUSE, OOP, Data Structures & Algorithms, Linear Algebra, Probability


PROJECTS

Crossword Notes  | Full-Stack Web Application, FastAPI, Next.js, Python Dec 2025 – Present

- Built a 2000's style web application that converts study notes into interactive crossword puzzles using deterministic text extraction, heuristic ranking, and constraint-based grid generation for reproducible, high-quality puzzle construction.
- Designed a reproducible crossword placement algorithm enforcing square grids, high intersection density, and single-component connectivity to maximize puzzle compactness, readability, and overall crossword quality.
- Implemented an AI-powered clue generation pipeline with evidence-based prompting, validation filters, duplicate detection, repair passes, and deterministic fallbacks to guarantee accuracy, consistency, and complete clue coverage.
- Developed a scalable FastAPI backend with batch processing, multi-layer caching, and strict postcondition guarantees, integrated with a Next.js frontend for fast, reliable, real-time crossword rendering.

Systems Programming Projects  | C++, POSIX I/O, FUSE, Linux Sep 2025 – Apr 2026

- Built a custom memory manager library in C++, implementing allocation strategies and testing correctness through repeated allocations and frees.
- Implemented a WAD-backed file system with POSIX I/O and FUSE, handling directory structures, descriptors, reads/writes, and persistence.
- Strengthened low-level debugging and systems reasoning through static libraries, Linux tooling, and file-system testing.

AI Voice Emotion Detector  | Machine Learning, Random Forest, NumPy, Pandas, Scikit-learn Sep 2025 – Oct 2025

- Independently developed a machine learning model to classify emotions from speech using the RAVDESS dataset.
- Extracted MFCC audio features with Librosa, structured and normalized the dataset, and trained a Random Forest classifier to achieve strong multi-class emotion prediction accuracy.
- Evaluated model performance using a confusion matrix and detailed classification report, visualizing results with Matplotlib and Seaborn to clearly highlight accuracy trends.

LICENSES AND CERTIFICATIONS

CompTIA: **CompTIA IT Fundamentals+ (ITF+) Certification** | May 2022

No Expiration

Microsoft: **Microsoft Excel (Office 2016)** | May 2020

No Expiration

Microsoft: **Microsoft PowerPoint (Office 2016)** | Feb 2020

No Expiration

Microsoft: **Microsoft Word (Office 2016)** | Nov 2019

No Expiration

EXTRACURRICULARS

AI Student Club: Attended AI/ML workshops and speaker events to build foundational knowledge in artificial intelligence.

UF Open Source Club: Participated in coding workshops and observed project sessions to learn best practices in open-source dev.

UF Student Infosec Team (UFSIT): Attended cybersecurity and ethical hacking workshops to explore security concepts.