Luke Atkins

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EDUCATION

Indiana University - Bloomington **Bloomington, IN**
B.S. Computer Science | Specialization in Artificial Intelligence, ***GPA: 3.7*** *Expected December 2024*
Key Coursework: Algorithms, Data Structures, Machine Learning, Statistics, Multivariate Calculus, Linear Algebra

SKILLS

Python, Swift, Java, JavaScript, HTML, CSS, Git, Github, Tensorflow, Figma, React, Django, Tailwind, JUnit, XCTest, Docker, XCode, Datadog, VS Code, Unix based OS, Jira, Notion

WORK EXPERIENCE

Data Structures Undergraduate Instructor **Bloomington, IN**
Indiana University, Data Structures *August 2024 - Present*
- Design and lead labs, create quizzes/exams, and teach core data structures like trees, graphs, and hash tables, ect.
- Provide one-on-one support for sorting algorithms, dynamic programming, and graph traversal applications.
- Create projects, graded assignments, and write JUnit tests, integrated with autograder.io, to assess student HW.

Software Engineer Intern **Denver, CO**
Ibotta, D2C mobile app *May 2024 - August 2024*
- Eliminated user friction by an average of ~3 seconds and two steps through machine learning driven text recognition, reducing user time to redemption - improving the apps bottom line in just 3 months.
- Secured buy-in of a new search scan feature from stakeholders by mocking and presenting the flow utilizing Figma.
- Lowered app crash diagnosis time by 20% by capturing 10% more exceptions through crash logging with Embrace.

Mobile Development Teaching Assistant **Bloomington, IN**
Indiana University, Mobile Development *January 2024 - May 2024*
- Educated 100+ students, with 96.5% achieving mastery of all course concepts by providing one-on-one assistance.
- Improved grading team efficiency by 3x by writing Zsh scripts to automate git version control for 100+ repositories.
- Taught students to maintain MVC and MVVM architectures and Apple SDKs while using Git version control.

Machine Learning Research Intern **Baton Rouge, LA**
National Science Foundation *June 2023 - August 2023*
- Cut development time by 30% by building an I/O pipeline for models on real-time financial datasets in TensorFlow.
- Stress tested suites of LSTMs with noise injection and out-of-distribution analysis, exposing the edge of performance.
- Boosted model accuracy by 15% and improved layer architecture for Fine-tuned ML models on anomaly detection.

PROJECTS

Harvard University Hack-a-thon - *(Team of 4), Placed 1st out of 39 teams*
- Developed an app so Hikers can grade trails and select suitable hikes based on biometric data and workout history, received funding from the main sponsor.

Hacker News Mobile App ~ published on App Store (*Co-developed), App Store*
- Eliminated API calls from 100/hr to 5/hr decreasing network load by creating a caching network manager.
- Enabled headlines to be carouseled through on home screen, built interactive widgets with WidgetKit and Intents.

Deep Neural Network, built from scratch, Numpy only - *project link*
- Self-challenge to implement ML algorithms from scratch using NumPy; The Multilayer Perceptron (Rumelhart Et al.)
- Successfully applied the model on UIUC's wine data set to achieve an F1 score of .92 and a precision score of .90.

Web App for Concert Venue Booking System (*CRUD application with RESTful API)*
- Developed a Django API for user auth and data management with S3 & PostgreSQL database, links to React frontend.
- Built continuous integration and delivery pipeline for a containerized micro-service using Github Actions Workflows.