Naishal Patel (He/Him)

SOFTWARE DEVELOPER | COLUMBUS, OH 43201 | **(440) 781-3757** | patel.4630@osu.edu | www.linkedin.com/in/n10 | naishal10.github.io

Education

JANUARY 2022 - MAY 2024

Ohio State University, Columbus, OH— *BACHELOR OF SCIENCE*

- Concentrated in Artificial Intelligence and majoring in Computer Science and Engineering.
- Relevant Coursework: Calculus III, Software I & II, Foundation I & II, UNIX Programming Env, Foundations of Higher Mathematics, Engineering Fundamentals, Introduction to Low-Level Programming and Computer Organization, Database, Intro to Artificial Intelligence, Computer Architecture, Introduction to Operating Systems, Web Apps.

AUGUST 2020 - DECEMBER 2021

Cuyahoga Community College, Westlake, OH— *ASSOCIATE OF SCIENCE*

- Engaged in coursework including Calculus II, Linear Algebra, Physics I & II. Dean's List.

Experience

MAY 2023 - PRESENT

The Aspire Group, Columbus, OH — *Mobile APP Developer (RA)*

- **Spearheaded a 4-person team** to develop a universal AI data collection app, boosting **efficiency by 25%**.
- **Crafted a database layout** with **draw.io** for cross-platform synchronization, enhancing **accessibility by 100%**.
- Built an iOS app with **Swift UI**, **Metal API**, and other **APIs**, reducing data labeling **time by 80%**.
- **Managed team** alignment and progress, ensuring successful and timely project completion.
- **Conceived a user-friendly UI**, increasing user experience satisfaction **rating by 75%**.

MAY 2023 - PRESENT

The Aspire Group, Columbus, OH — *Artificial Intelligence Developer (RA)*

- Scoured the internet for articles on sound noise reduction technology, gaining insights and informing project direction.
- Utilized **Google's ML Kit** to implement a **custom model** in the app, **achieving a 40% reduction in noise**.
- Created a proprietary model using **Python** after studying open-source models, resulting in a further 50% noise reduction.
- Orchestrated research and development in **machine learning**'s impact on **speech processing**, achieving a 30% improvement in accuracy and guiding future technological advancements.

JUNE 2022 - AUGUST 2022

MBCC Group, Beachwood, OH— *Technical Specialist (Intern)*

- **Collaborated with a team of 4**, providing comprehensive **technical support**, resulting in a **25%** increase in efficiency.
- **Coordinated with the security team** for new software installation, fortifying company-wide cybersecurity.
- Configured new phones and computers with custom software, **streamlining onboarding**.

Skills

Coding Languages: Swift UI, Python, MATLAB, Java, C#, R, C, SQL, Assembly, HTML, CSS, JS, Ruby on Rails.

Soft Skills: Time Management, Innovative Thinking, Rapid Learning, Research and development.

Frameworks: Unity, XCode, Visual Studio, Firebase, GitHub, VIM, Solidworks, Git, Postman, Jupyter Notebook, Proficiency in Mac OS, Windows & Terminal environment.

Area of Interests: Artificial Intelligence Development, Database Management, IOS App Development, Software Development, UI/UX, Debugging, Testing.

INVOLVEMENT

Distinguished as a Data-Fest Finalist, Mandel Scholar, and Choose-Ohio-First Scholar.

Honored as a Member of the Hack-Ohio Team, AI Club & CEO Club, The National Society of Leaders, and Phi Theta Kappa.

PROJECTS

SOCIAL AND FINANCE APP — (XCODE | SWIFT UI)

- **WHAT:** Engineered an all-in-one iOS application that combines **social media interaction** with **financial market analysis** and **sentiment prediction**. Features include **chat, posts, market tools,** and **stock news**, all backed by APIs like Finnhub and Polygon.io and an **in-house AI model**.
- **HOW:** Used Swift for the core development and Combine for handling **large sets of data** asynchronously. Integrated Finnhub and Polygon.io **APIs** for **market analysis tools** and **stock news**. Added robust authentication **mechanisms** for user **security**. Integrated a **custom AI model** for sentiment analysis.
- **RESULT:** Handled and rendered large datasets with a **latency of less than 150 milliseconds**. The integrated AI model has a **high prediction accuracy of 85%**, enhancing user engagement.

C & ASSEMBLY PROJECTS — *(TERMINAL | C/ASSEMBLY | Github)*

- **WHAT:** Engineered a **C-based file system** supporting all key operations like mkdir, cd, and rmdir, and **developed encryption systems** for data security. Created Assembly programs for **string manipulation and faster encryption**.
- **HOW:** Used **linked lists** in C for a **file system** and **bit manipulation for data encryption**. Built string and encryption programs in Assembly using x86_64 syntax and bit-shifting opcodes.
- **RESULT:** Achieved **20% faster file access times** using linked lists over arrays in C. **Reduced encryption time by 25%** in Assembly compared to C.

ARTIFICIAL INTELLIGENCE — *(GOOGLE COLAB | PYTHON | Colab)*

- **WHAT:** Developed a Python program to **analyze financial news sentiment**, generating a dataset with sentence-level sentiment scores ranging from -1 to 1. Utilized the **dataset** to train an **AI model** using CoreML for further analysis.
- **HOW:** Utilized a range of Python libraries including **Pandas, NLTK, VaderSentiment,** and **Transformers**, along with the **Finnhub API for financial news**. Employed **tokenization, lemmatization,** and **sentiment analysis techniques** to process and analyze the data.
- **RESULT:** Achieved a **model accuracy of 85% in sentiment prediction**, while also **reducing prediction time by 95%** through the tokenized approach.

JAVA PROJECTS — *(ECLIPSE | JAVA)*

- **WHAT:** Developed projects, including **tag cloud generator**, custom **data-structures implementation**, **email parsing**.
- **HOW:** Utilized Java's extensive data structures and **libraries** for project development.
- **RESULT:** Gained a deep understanding of **data structures and algorithms**, leading to more **efficient code**.

IOS APP DEVELOPMENT (NEWS APP) — *(XCODE | SWIFT UI | Youtube)*

- **WHAT:** Developed a news app in Swift UI that integrates a **CoreML sentiment model**, serving as the foundation for the next market research and analysis app.
- **HOW:** Employed **Combine for API management**, utilized Polygon API for news data, integrated **CoreML** for sentiment analysis, and built the app using Swift UI.
- **RESULT:** Achieved **95% user satisfaction** in UI through **surveys** and optimized **rendering speed by 50%** using Swift UI's LazyHStack and LazyVGrid, resulting in **lag-free scrolling**.

GAME DEVELOPMENT — *(UNITY | C# | Youtube)*

- **WHAT:** Developed a **3D multiplayer, open-world game** inspired by GTA V with fantasy elements, featuring a business system and **ML agents**. Also created 2D games, including a **tower defense game and a guessing game**.
- **HOW:** Leveraged Unity's extensive toolkit and asset store, incorporating **Dotween** for animations, **ML-Agents** for enemy AI, the **new DOTS system** for performance, **Burst compiler** for 3D optimization, and **Shader Graph** for enhanced graphics. Utilized Unity's **profiling tools** to identify bottlenecks and address **garbage collection issues** for code optimization.
- **RESULT:** Achieved a smooth gameplay experience with an **average of 78 FPS on standard PCs**, despite the expansive 3D world. Utilized Unity's profiler to **optimize game performance**, resulting in a **50% improvement in efficiency**.