

Aryan Saxena

Ames, Iowa | 515-203-0983 | pro.aryansaxena@gmail.com | www.linkedin.com/in/aryan-saxena1210 |

EDUCATION

Iowa State University of Science And Technology

Ames, Iowa

Bsc. Computer Science - **GPA 4.0**

Graduation Date: Dec 2026

Coursework: Computing in Python, Object-Oriented Programming, Functional Programming, AI in Pytorch, Computing in C

Columbia University in the City of New York

NYC, New York

(Remote) Research Assistant: Benchmarking the code-reasoning abilities of multiple Large Language Models

WORK EXPERIENCE

Traced Research Project - Columbia University

New York City, New York

Research Assistant

Sep 2024 - Present

- Worked with a team of **5 members** to produce **benchmarks** to assess the reasoning abilities of **LLMS** in **code generation**
- Utilized **Google OSS-Fuzz** to scrape **400+** function level code from multiple **open source projects** in C
- Analyzed **chain of thought** of the LLMs by using **GBD (GNU)** debugger to compare the values of the intermediate variables in source code and code generated by LLMs

BestYouCollege - bestucollege.com

Ames, Iowa

Backend Engineer

Aug 2024 - Oct 2024

- Built **automated data pipelines** to scrape and aggregate data from multiple sources using **Selenium**
- Executed **Retrieval Augmented Generation (RAG)** models **DuoBert** and **DuoT1** model for reteriving data and used **CohereAI rerankers** to further optimize the reterival
- Implemented **authentication** and **authorization** mechanisms using **JWT tokens**
- Architected a **RESTful API** using **Node.js** and **Express** to improve application scalability.

Portfolio Website - aryan-saxena.com

Ames, Iowa

Full Stack Developer

May 2024 - Aug 2024

- Developed a professional portfolio website using **Next.js**, improving online visibility and personal branding by **50%**
- Integrated **Tailwind CSS** with **ReactJS** for responsive design, increasing visitor retention by **40%**.
- Implemented **context management** using **TypeScript** to handle theme changes, resulting in a **30%** reduction in bugs

PROJECT EXPERIENCE

Abstract-Mario Game

Ames, Iowa

www.github.com/aryansaxena1210/abstract-mario

Jan 2024 - Mar 2024

- Developed an interactive game in **Java** which micks the workings of the game **Mario** by **70%**
- Implemented **11+** **classes** like Platform Element, Moving Element, Flying Element, Follower element, etc.
- Utilized **object-oriented principles** to create modular and reusable code, improving code maintainability by **40%**.
- Implemented efficient **algorithms** for **collision detection** and **player movement**, reducing processing time by **30%**.

Snakes x Packman

Ames, Iowa

www.github.com/aryansaxena1210/snakes-x-packman

Mar 2024 - May 2024

- Developed an interactive game in **Java**, which is a cross between **Snakes** and **Packman**
- Designed Complex algorithms for **collision detection**, player movement, **game dynamics** and scoring.
- Conducted thorough **unit testing** and **debugging** to ensure reliability of game mechanics by **40%**

ChatGPT Clone - Decoder-Only Transformer

Ames, Iowa

www.github.com/aryansaxena1210/transformer

May 2024 - Aug 2024

- Engineered an AI-powered Decoder-Only Transformer using **PyTorch** and **Lightning**, leveraging **LLM** techniques.
- Harnessed a 5-token vocabulary for embedding, optimizing the LLM's efficiency in small-scale artificial intelligence.
- Formulated **Positional Encoding** and **Self-Attention** from scratch, enhancing AI model precision by 20%.

TECHNICAL SKILLS

Languages: Python, Java, C, HTML/CSS, Javascript, Typescript, Kotlin

Libraries/Frameworks: ReactJs, NextJs, NodeJs, ShadCN, Framer-Motion, Jetpack-Compose, Retrofit MongoDB, Django, Flask, Tensorflow, Numpy, Pandas, Matplotlib

