Samuel Potter

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Education

University of Rochester Aug 2021 – May 2025
Bachelor of Science in Computer Science *Rochester, NY*

Relevant coursework: Programming Languages, Computer Organization, Deep Learning, Software Development

Awards:

- Outstanding Undergraduate Researcher Award Honorable Mention, Computing Research Association
- Best Space-Themed App, DandyHacks 2021

Skills

Languages: Java, Python, C, C#, SQL, PostgreSQL, TypeScript, HTML/CSS, Swift
Frameworks: React, Node.js, Next.js, Flask, Tailwind, SwiftUI
Tools: Git, Gradle, AWS, Google Cloud, Neovim, Adobe Creative Suite, Unity, Unreal Engine 5, ElasticSearch, Excel

Experience

Software Developer Mar 2025 – Present
Mohammad Bin Salman Autism Center *Remote*

- Developed a system to augment availability of human experts for speech therapy.
- Developed and maintained deployment of a full stack application in NextJS on the Alibaba cloud.
- Spearheaded a pilot study of 50 participants to analyze efficacy.

AI Engineer Nov 2023 – Sep 2024
Saudi Authority for Data and Artificial Intelligence *Remote*

- Co-developed KALEEM: a humanoid tutor that is personalized, adaptive, multimodal and available anytime, anywhere.
- The system was premiered at the Global AI Summit 2024 organized by the Kingdom of Saudi Arabia.
- NDA – No further information available.

Research Assistant – Full Stack June 2022 – Nov 2023
University of Rochester Human Computer Interaction Lab *Rochester, NY*

- Developed and tested methods for synthetic data generation for hand tracking machine learning models using Unity.
- Leveraged GPT-4 and Unreal Engine 5 to develop a virtual chatbot for teaching, job interview and conversation practice.
- Created an interactive full stack website for the chatbot using Flask on Amazon Web Services.

Teaching Assistant – Intro to Java Programming Jan 2022 – June 2022
University of Rochester *Rochester, NY*

- Led two 75-minute workshops of 12 students each per week.
- Facilitated students to engage with course material and with each other in an interactive learning environment.
- Produced a final research project aimed at improving the CS learning experience through virtual online exercises.

Projects

ThankYouEpicDB | *Python, Next.js, Flask, ElasticSearch, React, Postgres, Tailwind* Present

- Designed and implemented an index of 8,000+ images and videos for a meme library, enabling semantic search.
- Integrated AI-based content analysis, storing results in an ElasticSearch database to enable semantic search and retrieval.
- Developed front end website for querying the database using Next.js.

Pawntastic Emulator: CSC 242: Artificial Intelligence | *Java, Artificial Intelligence* October 2023

- Designed an emulator for Pawntastic games of variable board sizes on the command line using Java.
- Implemented move and win condition validation to ensure gameplay integrity.
- Created configurable opponents using MiniMax and H-MiniMax with depth pruning.

Salendar: DandyHacks 2023 | *Next.js, TypeScript, Python, Flask* Nov 2023

- Developed a full-stack application with Next.js and Flask enabling automatic course schedule calendar setup.
- Utilized the Google Cloud and OpenAI API to streamline syllabus parsing and Google calender generation.

Spotify Song Predictor: CSC 240: Data Mining | *Python, Data Cleaning, Data Mining* Apr 2023

- Performed data cleaning and feature selection on data from 30,000 songs over 15 attributes.
- Trained a Decision Tree Classifier and a Gradient-Boosted Tree Classifier in Python to classify songs as hits or flops.
- Developed a front-end to allow users to interact with and test our model's performance.
- Prepared and delivered a presentation on our results, winning 'best presentation of the day.'

Publications

M. Hasan, C. Ozel, S. Potter and E. Hoque, "SAPIEN: Affective Virtual Agents Powered by Large Language Models," in 2024 Conference on Neural Information Processing Systems.

Masum Hasan, Cengiz Ozel, Nina Long, Alexander Martin, Samuel Potter, Tariq Adnan, Sangwu Lee, Amir Zadeh and Ehsan Hoque, "Hi5: 2D Hand Pose Estimation with Zero Human Annotation," in 2023 11th International Conference on Affective Computing and Intelligent Interaction Workshops and Demos (ACIIW), Cambridge, MA, USA, 2023 pp. 1-3.