Nirajan Acharya

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EDUCATION

Youngstown State University (YSU), Youngstown, Ohio
College of Science, Technology, Engineering, and Mathematics (STEM)
Bachelor's in computer science Expected, May 2022
(Senior)
Overall GPA: 4/4

COURSEWORK & COMPUTER SKILLS

- **Programming:** C, C++, Java, Python, LaTeX, and Java Script.
- **Coursework:** Operating System, Data Structure and Algorithm, Artificial Intelligence, Graphics, and Game Design, Automata Theory, Discrete Structure, Honors Differential Equation, Encoding and Encryption, Server-Side Programming Language, Data Structure and Object, Advanced Object-Oriented Programming Language, Computer Architecture, Computer Organization, Calculus 1/2/3, Linear Algebra and Matrix, Bayesian Statistics, Software Engineering, Information Assurance, Networking Concept, and Administration.
- **Tools:** Terminal, Visual Studio, NetBeans, Atom, Sublime text, Unity, PyCharm, Code blocks, MS office (Excel, Word, PowerPoint), Outlook, JupyterLab.

PROJECTS

- **Undergraduate Research:** Improving the efficiency of Huffman Encoding with the Cuda.
- **Operating System:** Implementation of a program that duplicates files into and out of a VirtualBox VDI file comprising a Linux ext2 filesystem.
- **Software Engineering:** Built Penguin Health App as a daily health assessment tool. This tool is specifically designed for the pandemic we're living in. It assists to determine if the user must be isolated to protect themselves, their families, and the community.
- **Senior Project:** Worked on the project "Evaluation of Inference Pipeline for TrackML". Where we tried to improve the efficiency of different pipeline stages: Data Loading, Embedding, Build Edge, Filtering, Graph Neural Network, and Labeling.
- **Artificial Intelligence:** Designed Finite State Machine for a non-player character with the help of randomness, depth-first search algorithm, and breadth-first search algorithm.
- **Computer Architecture:** Created Branch Prediction Simulator Program. For this program, I implemented algorithms: Smith Predictor, Global-History Two-level Predictors, Local-History Two-level Predictors, and gshare Predictor discussed in Shen and Lipasti's book.
- **Data Structure and Algorithm:** Employed the shortest pathfinding algorithm in C++.
- Made a 4x4 Tic-tac-toe game with the implementation of the Min-Max Algorithm.
- **Advanced Object-Oriented Programming:** Created GOPHER online shopping app using JavaScript.
- Made Snake and Tic-tac-toe game using Java object-oriented programming language.

WORK EXPERIENCE

The Shodor Education Foundation, Inc. Aug 2021 – Present

- Worked as a research participant on the project "Evaluation of Inference Pipeline for TrackML".

HONORS & ACTIVITIES

- President's List Award
- YSU International Scholar Award