Varun Parikh

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Technical Skills

Programming Languages: Python, C/C++, VHDL, HTML, CSS, JavaScript, TypeScript, SQL, Java, Scala, ARM, MIPS

Tools/Misc: Git, LaTeX, Markdown, Excel, Pandas, pygame, UNIX, Flask, GCP, DigitalOcean, Arduino, Azure, React, Node.js, Express.js

Experience

Waterloo Accelerate Program - Microsoft Azure Apr. 2023 - Aug. 2023

- Led design to develop a solution to prevent financial fraud against elderly using Micrsoft Azure AI
- Received AZ-900 and AI-900 Certifications

Projects

DocUrCode: Web tool that automatically writes descriptions for your code

- Used OpenAI API to generate line by line code descriptions with customizable levels of detail
- Developed front-end using React; implemented syntax highlighting, window resizing, and code selection
- Created back-end using Express.js and hosted server on Google Cloud
- **Technical Skills:** React, Node.js, Express.js, Google Cloud

Interactive Chess Board: 4x4 interactive chess board made as a teaching tool for beginners

- Used an Arduino and hall sensors to track pieces
- Highlights legal moves when pieces are picked up, and flags illegal moves when made
- Led design for processing sensor inputs and tracking pieces
- **Technical Skills:** Python, pygame, pyfirmata, Arduino

VrnHDL: Simple, easy-to-use markup language for generating simple digital circuit diagrams

- Simple syntax can be used to create digital circuit diagrams, quickly and iteratively
- Made in Python, using the PIL library for image rendering
- A simple website was made for this project using Flask
- **Technical Skills:** Python, PIL, Flask, HTML, CSS, jinja, DigitalOcean

FactorySplitter: A web tool that computes a tree to evenly split conveyor belts used in factory games

- Generates an output that can be used with Graphviz to render a graph
- **Technical Skills:** JavaScript, HTML, CSS

OnitamaAI: AI that plays the board game Onitama

- Made in Python, implemented using a minimax algorithm with alpha-beta pruning
- Capable of beating experienced human players more than 90% of the time
- **Technical Skills:** Python

Education

University of Waterloo Waterloo, ON
Bachelor of Software Engineering (Honours) Candidate, with Co-op Sep. 2022 – Present

Awards

Canadian Computing Contest Senior (2022): Certificate of Distinction
Canadian Open Mathematics Challenge (2021): Performance with Distinction