Adarsh Denga

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I am currently a Master's student in Computer Science, specializing in Artificial Intelligence. I have a great passion for learning, coding and solving puzzles in unique and innovative ways. In my free time I enjoy making music and playing video games.

Educational Background

Rishi Valley School (ISC)
ISC (High School)
Andhra Pradesh, IN / 2010-2017

University of Twente
BSc. Computer Science
Enschede, NL / 2018-2021

Delft University of Technology
MSc. Computer Science / AI Track
Delft, NL / 2021-Present

Work Experience

Internship: Wappler
Worked on developing a full stack application using Wappler's software for visual coding.
Enschede, NL / 2020 (10 weeks)

Skills & Proficiencies

Programming Languages
- Python
- Java

Web Development
- React.js
- JavaScript / TypeScript
- TailwindCSS / Bootstrap
- HTML / CSS / JavaScript

AI Development
- TensorFlow / PyTorch / Scikit-Learn
- numpy / matplotlib / scipy / pandas

Data
- SQL
- XML/JSON

Other
- Git
- Agile / Scrum
- Spring / SpringBoot
- Docker
- Maven

Soft Skills
- Teamwork / Collaboration / Communication / Problem Solving / Open-Mindedness / Learning / Adaptability / Time Management

Projects

Circles in a Square [Evolutionary Algorithms]
CiaS deals with optimal packing of circles within a square to minimize the free space left in the square. The implemented algorithm uses hyperparameter optimization, problem-specific initialization techniques, elitist selection and boundary repair to achieve near optimal solutions.

Traveling Salesperson Problem [Evolutionary Algorithms]
The age old traveling salesperson problem is approached from an Evolutionary Algorithms point of view where the algorithm attempts to cluster nodes together in order to split the TSP problem into much smaller and more efficient TSP sub problems.

Electric Vehicle Charging Planning [Reinforcement Learning, Constraint-Based Solving]
The algorithm uses reinforcement learning and constraint-based solving on a simulation in which EVs arrive at charging stations to be charged to determine the optimal charging planning to meet the demand as well as stay within the physical constraints of the power grid.

AAPFL [Programming Paradigms, Compiler Construction]
AAPFL is the authors' custom programming language which is a syntactic halfway point between JavaScript and Python. It has all the basic features such as datatypes, simple expressions, statements (if/else/while etc.) and basic operations. In addition, it also has concurrency with forks, joins, and locks/unlocks on critical sections of code. AAPFL compiles to SPRIL, which are instructions for a simulated SPROCKELL processor.

Sociable [Game Development / VR Programming]
Sociable is a VR game that acts as exposure therapy to alleviate the symptoms of social anxiety in those who are affected by it. Participants take part in virtual everyday conversations with NPCs, where they will have to speak out dialogue options to progress the scenario. The severity of the symptoms is also measured before and after the exposure therapy through a questionnaire.

Math Tutor [Conversational Agents / Chatbots]
An emotionally aware, gaze capable conversational agent for young students to help them understand basic mathematical skills. This conversational agent is used to determine the effect of the presence or absence of emotional awareness and gaze on the effectiveness of the tutoring.

Personal Website [Web Development / React]
A portfolio website constructed with Node.js, Vite and React. Coded in TypeScript and made beautiful with the help of TailwindCSS.