Padmini Gopinath

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EDUCATION:

Bachelor of Science: Computer Science - Data Science Track   *Expected Graduation: May 2025*
Double Major: Economics   University of Maryland, College Park
Key Courses:
Algorithms, Organization of Programming Languages (Ruby, Regex, Ocaml, Rust), Object-Oriented
Programming (Java), Data Structures, Computer Systems (C, Assembly, UNIX), Discrete Structures, Linear
Algebra, Calculus, Microeconomic Analysis, Macroeconomics Analysis, Methods & Tools for Economic
Analysis (MATLAB), Economic Statistics (STATA, R)
Fall 2023 Semester: Data Science (Python), Database Design (SQL)

EXPERIENCE:

Sustainability Analytics Research Intern   **(May 2023 - Present)**
- Supervised by Dr.Thanicha Ruangmas. Performed a comparative study on marginal emissions & damages from electric vs gasoline vehicles in the US.
- Improved the APX model used in previous studies by using new atmospheric models and updated 2020 emission data from the National Emissions Inventory.
- Used R (tidyverse, TERRA, etc.) to work with various dataframes. Calculated marginal cents/mile damages for each pollutant (NOx, SO2). Modeled results by creating tables, graphs, and maps to detail NOx and SO2 emissions for different interconnections (NERC) in the US.

PROJECTS: (implementation available upon request)

- Designed and Implemented several Java projects. Some interesting projects include ***Dijstrka's Algorithm, Clear Cell Game, Orders Processor, & Interest Table***. Extensively used data structure principles and advanced Java concepts.
- ***Shell Sr:*** Wrote a process based shell program in C which uses background utilities to support various Linux commands including those with boolean operations, file redirection, and pipes
- ***Translator:*** Wrote a translator in Ruby that translates various languages. Gained experience with Regex.
- ***Interpreter:*** Implemented Mutop, an interpreter. Wrote lexer, parser, & evaluator in Ocaml
- ***Investment Portfolio:*** Matlab economic-based project that analyzes stock returns and optimizes shares for maximum expected returns for Amazon, Edward LifeSciences Corp, and Biogen Inc.

SKILLS:

- Proficient in Java, R, C, Ruby, Assembly, Ocaml, Rust   *(also Python and SQL after Fall 2023)*
- Comfortable with Matlab, Python, STATA, Excel and data analysis techniques
- Excellent written and verbal communication skills
- Strong problem solving & analytical skills w/ great ability to work in a team environment
- Thorough understanding of economic principles and their practical use
- Languages: English, Tamil, and French