

Premnaath Varadharajan

+1 (213) 930-0803 | premnaathvaradharajan@gmail.com | [linkedin.com/in/premnaath](https://www.linkedin.com/in/premnaath) | [sudo-prem.github.io](https://pseudo-prem.github.io)

OBJECTIVE

Computer Science Master's candidate with 2+ years of experience in full-stack engineering, specializing in system performance and applied AI. Proven ability to optimize performance of applications and lead backend development for early stage products. Seeking an internship role to build impactful software.


EDUCATION

University of Southern California, Los Angeles, CA, USA 

Master of Science in Computer Science

Jun. 2025 – Present

3.82/4.0 CGPA

Anna University - College of Engineering, Guindy, India 

Bachelor of Technology in Information Technology

Aug. 2019 – Apr. 2023

9.07/10.0 CGPA

EXPERIENCE

Oracle 

Jan. 2023 – Mar. 2025


Associate Software Developer

Hyderabad, India - Onsite

- Shipped a complete integration of Oracle's proprietary DataGrid component with Microsoft Excel, creating a reusable library that streamlined development for other engineers (AXCellence Award)
- Optimized performance of Aconex suite modules by using thread pools for concurrency and progressive loading for lazy UI, cutting load times by 27% and making workflows more efficient
- Led customer meetings alongside PM to define use cases and convert them into prioritized, shippable features

Project Intern

- Developed a panning canvas UI component from scratch to enable navigation across screens using mouse drag
- Handled DevOps tasks, including containerizing applications and creating deployment pipelines for a new product


Coral Academy 

(Part-Time) Jun. 2024 – Feb. 2025

Lead Backend Engineer

New York, NY - Remote

- Led a team of 3 in backend development for an early-stage edtech start-up in the K-12 segment
- Designed scalable database schemas and architected the application based on PRD
- Integrated Stripe for payments, Zoom for calls and optimized data handling using CF Workers and Supabase

Assurant 


May 2022 – Jul. 2022

Data Analyst Intern

Atlanta, GA - Remote

- Developed quality control PowerBI dashboards and conducted code reviews
- Leveraged direct query approach to minimise time elapsed to extract and transform data from warehouse

PROJECTS

Linear Space Sequence Aligner  | *C++, Dynamic Programming, Divide and Conquer*


2025

- Developed a sequence aligner using Hirschberg's algorithm to reduce space complexity from $O(mn)$ to $O(\min(m,n))$
- Integrated performance metric tracking to quantitatively validate significant efficiency gains in memory usage

ARSort  | *Swift, ARKit, RealityKit, Swift Playground Book*


2023

- Created an AR Swift Playground Book that brings sorting algorithms to life with interactive 3D visualizations, adjustable dataset size and speed, and step-through controls; submitted to WWDC SSC

Multitask Offloader  | *Python, xmlrpc, cProfile, pstats, Edge Computing*

2023

- Developed a decision-making algorithm to offload computationally intensive tasks from mobile devices to edge servers
- Achieved up to a 40% reduction in computation time for large inputs, enhancing overall efficiency

PDF Wiser  | *Python, Streamlit, LangChain*

2024

- Developed a Streamlit web app that retrieves answers from a provided PDF using natural language processing
- Implemented Retrieval Augmented Generation that uses advanced embedding models and re-ranking knowledge graph

TECHNICAL SKILLS

Languages

Python, C++, Java, JavaScript, TypeScript, PostgreSQL, Go, Lua

Developer Tools

Git, Linux, Docker, Kubernetes, CI/CD Pipelines, Github Actions, Shell Scripting

Libraries & Frameworks

Flask, Django, Supabase, ReactJS, pytest, gRPC, C++ STL

Machine Learning

RAG, Embeddings, LangChain; IR/NLP Integrations

Concepts

OS, DBMS, CN, Distributed Systems, Caching, Logging, Multithreading

NOTABLE HIGHLIGHTS

- Received the AXCellence Award for the Extra Mile category from CEGBU's Vice President for FY24 Q3 at Oracle
- Won a \$150 cash prize as a runner-up in Oracle's IGIU FY24 Hackathon
- Participated in Apple's WWDC Swift Student Challenge 2023, earning a free entry ticket worth \$1000 to Apple Park, CA
- Awarded Certificate of Merit by CBSE for securing a perfect 10 CGPA in AISSE session 2015-2016
- Made contributions to [TLDR](#) pages, an open source community driven command line tool
- Online Profiles: [LeetCode](#), [CodeChef](#), [CodeForces](#), [GeeksforGeeks](#), [Hackerrank](#), [Stack Overflow](#)