Premnaath Varadharajan

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EDUCATION

University of Southern California, Los Angeles, CA, USA ↗   Jun. 2025 – Present
Master of Science in Computer Science   *3.7/4.0 CGPA*

Anna University - College of Engineering, Guindy, India ↗   Aug. 2019 – Apr. 2023
Bachelor of Technology in Information Technology   *8.97/10.0 CGPA*

EXPERIENCE

Oracle ↗   Jan. 2023 – Mar. 2025
Associate Software Developer   *Hyderabad, India - Onsite*
- Developed 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
- Actively participated in customer meetings to brainstorm use cases and develop features tailored to their needs

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 4 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 requirements
- 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
- Used 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*   Jun. 2025 – Jul. 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

PDF Wiser ↗ | *Python, Streamlit, LangChain*   Mar. 2024 – Apr. 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

Multitask Offloader ↗ | *Python, xmlrpc, cProfile, pstats, Edge Computing*   Feb. 2023 – Apr. 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

Sort Visualizer ↗ | *Python, TKinter, Sorting Algorithms*   Feb. 2022 – Mar. 2022
- Designed a cross-platform sort visualization app with customizable animation speed, dataset size, and range

TECHNICAL SKILLS

Languages	C++, Java, Python, TypeScript, SQL, Lua, Z Shell
Developer Tools	Git, Docker, Kubernetes, CI/CD Pipelines, PowerBI
Libraries & Frameworks	STL, Flask, Django, Supabase, ReactJS, Machine Learning

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 2022, 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