Anant Matta

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Education

University of Illinois Urbana-Champaign   Expected May 2025
B.S. in Computer Science and Mathematics   GPA: 3.98

    Honors: LAS James Scholar, Dean's List

    Completed Coursework: Algorithms and Models of Computation, Programming Languages and Compilers, Distributed Systems, Applied Machine Learning, Numerical Analysis, Graph Theory, Computer Systems, Data Structures

    Upcoming Coursework: Algorithms (adv.), Trustworthy Machine Learning, Formal Software Development Methods

    Student Organizations: Association for Computing Machinery (Lead), Association for Quantitative Trading

Experience

Software Development Intern, WH Trading LLC – Chicago, IL   June 2024 – August 2024
- Spearheaded initiative to improve databases storing incoming and historical market data for trading platform, decreasing disk usage by 50% while increasing ingest throughput by 4x and read throughput by 20x.
- Engineered pipeline integrating settlement data from new exchanges with accounting and back office systems.
- Coordinated joint effort between developers and traders to resolve software/numerical errors in trading systems.
- Developed C++ client library for PostgreSQL and TimescaleDB to enhance integration with proprietary software.

SPIN Research Intern, National Center for Supercomputing Applications – Champaign, IL   August 2023 – May 2024
- Leveraged high-performance computing and ray tracing to simulate wireless signal traffic in indoor spaces.
- Architected pipeline to reconstruct digital twins of indoor environments using LIDAR and Poisson reconstruction.
- Pioneered AR platform to visualize real-time wireless communication between devices with latency under 100ms.
- Demonstrated and presented research and findings at 2nd annual NCSA Student Research Conference.

Course Assistant, UIUC Department of Computer Science – Champaign, IL   August 2023 – December 2023
- Undergraduate Course Assistant (CA) for CS 437: Topics in Internet of Things.
- Designed and validated software for labs demonstrating applications of FMCW radar and signal processing.
- Managed computing and radar equipment for the course, ensuring proper distribution to 30+ students.

Research Assistant, UIUC iSENS Lab – Champaign, IL   January 2023 – Present
- Finetuned millimeter-wave retroreflectors (millimetro) for extreme mobility and non-line of sight scenarios.
- Improved localization of millimetry at high speeds by 50% by optimizing Kalman filtration and post-processing.
- Optimized millimetro for use underground with radar mounted drones for wireless, low-power soil monitoring.

Projects

iPlanner   May 2023
- Designed a full stack web application where college students can interactively design and save 4-year academic plans with active recognition of course prerequisites, conflicts, and degree requirements.
- Implemented a frontend interface using React with Typescript to allow students to find classes and create plans.
- Created backend using MongoDB and Spring Boot to store and expose data on class offerings and requirements.

Skills

Languages: C++, C, Python, SQL, Typescript, Javascript, Java, Ocaml
Databases: MySQL, PostgreSQL, TimescaleDB, InfluxDB, QuestDB
Frameworks: Qt, PyTorch, React, Tensorflow, Flask, SionnaRT, A-Frame
Development Tools: Wireshark, Wireless Insite, Fusion360, Altium Designer, Cloud Compare