

Naren Velnambi

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EXPERIENCE

Software Engineering Intern | Iterate.AI, San Jose, CA 05/2024 - 08/24

- Improved LLM performance 12.5% from 40 to 45 tokens per second, implementing speculative decoding & continuous batching for available models on Generate, a secure AI Manager providing private LLM capabilities for enterprises
- Composed custom APIs, including LLM health monitor, within llama.cpp framework; coded end-to-end data pipeline solutions for Interplay GenPilot's RAG using Airtable, Slack, Google Native APIs & LangChain framework
- Optimized & deployed GenPilot on all Intel systems using OpenVINO toolkit and Intel PyTorch in Intel partnership

Research Assistant | Purdue University, West Lafayette, Indiana 06/2024 - Present

- Under Dr. Mustafa Abdallah researched enhancing interpretability of network intrusion detection systems through XAI
- Generated prototype-based explanations for distinguishing intrusion and normal traffic, moving beyond traditional feature importance explanations; leveraged the NSL-KDD and CICIDS-2017 datasets for validation

Data & Cybersecurity Researcher | Boeing, Purdue Data Mine, West Lafayette, IN 01/2024 – 5/2024

- Delivered VMWare-based digital twin of Boeing avionics network for cybersecurity analysis; identified a dozen+ potential system vulnerabilities and implemented custom defense solutions to mitigate roughly 80% of threats
- Led research team in collaboration with engineers to address the aviation environment's constraints, boosting practical success rates by 20% and mastering VirtualBox/VMWare, C, Python, risk management, and cybersecurity principles

Data Security Intern | Concentric AI, Saratoga, CA 06/2022 – 08/2022

- Collaborated with chief data scientist to conduct research and gather 100+ data sets for startup pursuing AI in data security, e.g. risk assessment, identifying confidential information, and resolving potential exposure dangers
- Leveraged the same data to improve risk management model classification by 3% with oversight from senior engineers

AI Research Intern | Cascal, Santa Clara, CA 06/2021 – 08/2021

- Conducted market research for a start-up focused on developing artificial intelligence to execute due diligence for its clients, e.g. delivering competitor and market analysis, customer perceptions, employee feedback, etc.
- Identified and interviewed 100+ industry experts over six sectors, recording client feedback for companies like HPE
- Established company one-pager presenting mission, services, and products, increasing client engagement by over 25%

EDUCATION & CREDENTIALS

Purdue University, Computer Science (BS) & Math Minor, West Lafayette, IN, Expected Grad: **May 2026**

Relevant Coursework: Data Structures and Algorithms, Computer Architecture, Statistical Methods, Programming in C, Competitive Programming, Multivariable Calculus, Linear Algebra, Discrete Math, Real Analysis

Clubs: ML@Purdue: Algorithm Trading, Purdue Hackers

Cornell Quant Fund Trading Competition: Placed top 5 in various categories of Cornell's invitational trading competition; optimized EMN portfolio weights using Python-based linear solver; leveraged LSTM models for options/cryptocurrency cases

Purdue BoilerMake Hackathon: Awarded first place by CAT among over 400 participants for project SpeechSimplified, an AI speech grader that takes in audio and provides detailed feedback and editing suggestions suited for users' grading rubrics

Foothill High School, Pleasanton, CA, **Weighted GPA: 4.56/4.0** (2020-2023), **SAT: 1570/1600** (Oct 2022)

SKILLS & INTERESTS

Hard Skills. Programming. Proficient. C/C++, Python (FastAPI, Pytorch, Scikit-Learn, Langchain) Familiar. Java, HTML/CSS/JS, UNIX, R, Bash, SQL, MATLAB

Languages. Spanish **Tools.** Microsoft Office/Excel
Interests. Machine learning, fintech/finance, statistics, entrepreneurship, tennis, weightlifting