

# Aman Dhruva Thamminana

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## EVIDENCE OF EXCELLENCE

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- Applied extreme programming (XP) methodologies in capstone work, startup development, hackathons, and learning
- Demonstrated proficiency in agile practices, including pair programming, test-driven development, and iterative design.
- Designed and Implemented Software Systems for Load balancing and Scaling using Kubernetes, and terraform
- Migrating a Monolithic System to Microservices while improving reliability, speed, and cost-efficiency.
- Applied rigorous mathematical methods to hyperelliptic-curve computations, resulting in a publication.
- Managed a SLURM cluster for internal research, optimizing resource allocation and providing computational support
- Pitched and raised a seed round at a \$5M post-valuation with an accredited venture capital firm

## WORK EXPERIENCE

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### Odin Classroom

East Lansing, MI

Software Developer and Co-Founder

Jan 2022 – Mar 2025

- Co-founded and developed Odin-classroom, a computer science learning management platform, Optimized system architecture, increasing speed 37X and reducing student wait times from 30 minutes to 20 seconds
- Secured \$40K+ in VC pre-seed funding within a year; Led formulation and execution of comprehensive marketing and business development strategies, launching beta across 3 classes with 1000+ students
- Made a significant impact by gaining valuable experience in pitching, business planning, and developing a high-scale platform. Developed essential entrepreneurial skills and demonstrated resilience in overcoming startup challenges

### Ford Motor Company

Dearborn, MI

Software Development Intern

May 2024 – Aug 2024

- Engaged in the Ford Engineering Development Environment Bill of Materials (FEDEBOM) application in Java Ensured efficient are efficiently integrated, maintained, and optimized for over 5,000 design engineers
- Established first documentation standard for Java Backend code for over 80 developers, developing systems to ensure consistent and accessible documentation for onboarding and training purposes
- Contributed to cloud migration from monolithic to microservices architecture for FEDEBOM application, furthermore engineered RAG-based tools and notification systems, deploying on GCP with Terraform

### Auto-Owners' Insurance

East Lansing, MI

Database Development Intern

May 2023 – Aug 2023

- Engaged in data unification projects, focusing on setting up stage tables, indexes, in-force keys, current snapshots, cleaning data and related tasks across over 200 million records and saving up to 40 hours
- Utilized services like Wherescape and DQ+ to streamline and enhance data management processes while working with Hive and Microsoft SQL databases to ensure efficient data management and integration
- Collaborated with cross-functional teams to ensure seamless integration and data consistency and contributed to documentation efforts to maintain comprehensive records of data unification processes

### MSU Institute for Cyber-Enabled Research

East Lansing, MI

High Performance Compute Development Engineer

Sep 2021 – May 2023

- Collaborated within the ICER Division on High Performance Compute Cluster projects with SLURM
- Built and documented a Git-based portal for MSU's High-Performance Computing Center (ICER/HPCC) using Ruby on Rails, crafting intuitive UI components and comprehensive user guides with HTML, CSS and MkDocs.
- Engaged with cross-functional teams to deliver seamless integration of high-performance computing systems, rapidly accelerating chemical discovery while ensuring documentation of all procedures without exception

## EDUCATION

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### Michigan State University

GPA: 3.7/4.0

Bachelor of Science, Computer Science and Bachelor of Science, Mathematics,  
College of Engineering, and College of Natural Science

Graduated December 2024

Relevant Coursework: Computational Network Modeling (Grad), Data Analytics, Theory of Algorithms (Grad), Foundations of Computing (Grad), Distributed Systems (Grad), Pattern Recognition (Grad), and iOS Design Lab

## ADDITIONAL EXPERIENCE

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### Michigan State University

Teaching Assistant

East Lansing, MI

Sep 2022 – July 2024

- Assisted with classroom instruction and content review for over 3500+ students during 300+ sessions
- Taught courses such as CSE 260 (Discrete Math), CSE 331 (Data structures and Algorithms), CSE 431 (Algorithm Engineering) and CSE 231 (Intro to programming 1) and [Apple Design Lab](#)
- Collaborated in developing an innovative curriculum for the Apple Design lab, incorporating critical thinking, teamwork, entrepreneurship, and design principles

### Michigan State University Research

Researcher and Research Assistant

East Lansing, MI

Jan 2023 – Dec 2024

- [Contributed](#) to published [research paper](#), achieving 173.4X computational speedup in perfect square fraction pair search spaces through novel semi-prime factorization signature method
- Worked in [Genetic Programming Lab](#) on integrating GP with Large Language Models for automated code repair applications, while conducting literature review and testing frameworks for evolutionary computation systems

## PROJECTS

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### Scrum Lead and Developer, Capstone [Genetic Programing Project](#)

Sep 2023 – Dec 2023

- Led a 4-member team as the highest contributor among 32 students to develop a C++ genetic programming system
- Engineered the core genetic programming loop, scavenger queuing system, and multi-threaded OOP architecture
- Engineered an automated development pipeline using CMake, clang-format, and comprehensive documentation alongside rigorous workflow guidelines, ensuring seamless builds across diverse environments
- Maintained high code quality through extensive unit and integration testing, along with sanitizers, custom logging, profiling, and memory leak checks
- Adopted an Extreme Programming & Scrum framework to drive rapid iterations and scalability, culminating in the deployment and training of GP models on MSU's high-performance computing cluster

### Co-Founding Engineer, [OneClickStack](#)

Nov 2024 – Dec 2024

- Built an AI-driven platform that transforms a single prompt into a full-stack web application—complete with front-end, back-end, databases, authentication, and payment integrations
- Validated and gained early traction 31 paying early adopters and a waitlist of 282 interested users
- Engineered to serverlessly scale the system using Kubernetes, Docker, and AWS, enabling rapid deployment and efficient infrastructure management

### Open-Source Contributions, GitHub

Nov 2024 – Present

- Contributed to multiple C++ open-source projects through bug fixes, new features, and comprehensive docs
- Collaborated with a global community to integrate modern C++ best practices and streamline code quality

### Co-Developer, [SurgeSOS](#) (Hackathon Winner)

(36 hours) Sep 2023

- Engineered a multi-agent platform that automates emergency call handling during high-volume 911 situations
- Implemented specialized agents to engage callers and extract key dispatch details, streamlining real-time responses
- Developed a full-stack solution using Flutter, react, OpenAI models, deployed on GCP and Firebase

### Co-Developer, [Quick Action](#) (Hackathon Winner)

(36 hours) Feb 2023

- Built an AR-based native iOS app that localizes users indoors and guides individuals to nearest exit with cues
- Leveraged Swift, ARKit, and Firestore to deliver real-time indoor mapping and evacuation assistance
- Built a full-stack system with React/Express and Twilio for operator communication and person-counting

### Scrum Lead and Developer, [Angry Sparty](#) (Best Project Award)

(5 Week) Nov 2022

- Developed "Angry Sparty," a C++ clone of Angry Birds using wxWidgets and BOX2D, with a team of 5 students earning the Design Award—all developed without AI assistance while ensuring high quality with unit tests
- Created detailed UML diagrams to streamline the project's structure and guide efficient development

## TECHNICAL SKILLS

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**Web-Development:** React.js, Next.js, Redux, Tailwind, CSS, Python, Flask, Fast API, AWS, API Design

**Programming Languages:** Python, C, C++, TypeScript, MySQL, Java, and Ruby

**Frameworks and Libraries:** Slurm, Git, Docker, Kubernetes, Vim, Pandas, TensorFlow, ARKit, Flutter, and GPT

## INTERESTS

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Interests: Motorcycling, Boxing, Hiking, Volunteering, and Competing in Hackathons