

Aruv Dand

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EDUCATION

University of Illinois Urbana-Champaign

Expected Grad: May 2027

Bachelor of Science + Master of Computer Science, Certificate in Data Science

GPA: 3.96/4.0

RELEVANT COURSEWORK

Courses: Data Structures, Algorithms, Computer Architecture, Database Systems, Numerical Methods, Artificial Intelligence, Systems Programming, Stats & Probability, Calculus 3, Linear Algebra, Audio Computing, Compilers

Awards: National Merit Finalist Scholarship, Engineering Dean's List, 1871 Coding Tech Challenge Finalist, BPA National Champion 2023, AP Scholar with Distinction, Illinois State Scholar

TECHNICAL SKILLS

Languages: C++, Python, Java, C, C#, Golang, JavaScript, TypeScript, SQL, HTML, CSS

Tools/Technologies: React, Node.js, Next.js, Flask, Django, Spring Boot, Tailwind, Docker, Github, Neo4j, MongoDB, GCP, PostgreSQL, MySQL, Redis, Pandas, PyTorch, Sklearn, Ubuntu WSL, Linux

EXPERIENCE

Disruption Lab

Sept. 2025 - Present

Software Engineer

Urbana, IL

- Creating AR/VR classroom simulation in Unity/C# for immersive online education with AI teacher interaction
- Implemented real-time multiplayer with Netcode and Vivox chat, achieving <100ms network sync for 20+ users

GEICO

June 2025 - Aug. 2025

Software Development Intern

Chevy Chase, MD

- Created PDLC hub (React, Django, Postgres) and workflow with cross-functional teams to surface dev gaps earlier
- Reduced manual effort by 70% using RabbitMQ + Celery to auto-provision and sync PRDs, Slack, and Azure
- Cut latency by 90% for 3,500+ engineers with Redis caching for queries and endpoints identified via Prometheus
- Deployed to Azure Kubernetes Service using Terraform IaC and Azure Pipelines CI/CD with Nginx load balancing
- Built Spring Boot service monitoring 17,000 orphaned repos via GraphQL, alerting owners weekly by email/Slack

Project Code UIUC - Fantasy Trading Room | fftradingroom.com

Sept. 2024 - May 2025

Project Manager & Software Engineer

Urbana, IL

- Led 8-member team using Agile sprints to deliver features to fantasy platform with 900k+ views and 500+ users
- Optimized API response times by implementing Redis caching for player rankings, PostgreSQL indexes on frequently queried columns, and JWT authentication; mentored team on SQLAlchemy practices and API design
- Prototyped LLaMA fantasy advice chatbot with QLoRA fine-tuning (HuggingFace / PyTorch) and designed Celery-based pipeline architecture for automated retraining triggered by user feedback corrections in PostgreSQL

E42.ai

June 2024 - Aug. 2024

Software Engineering Intern

Remote

- Built LangChain RAG chatbot (E42 LLM, ChromaDB) to automate HR policy queries for internal employees
- Developed pandas/scikit-learn evaluation pipeline measuring response accuracy against ground truth pairs
- Created text-to-SQL RAG pipeline enabling natural language database queries through vector-based schema retrieval; generated 40,000+ synthetic employee records (Python/Faker) stored in MySQL/ChromaDB for testing

PROJECTS

Distributed Soundboard | Java, C++, Spring Boot, gRPC, PostgreSQL, Apache Kafka, FFmpeg, React, Docker, GCP

- Built an async C++ gRPC service with completion queues and CallData states for concurrent audio processing
- Eliminated storage overhead and buffering delays by implementing async gRPC server streaming to deliver pitch/speed-modified audio chunks; managed concurrent requests with semaphore-limited worker pool
- Designed Spring Boot backend with PostgreSQL and Kafka event streaming to aggregate playback analytics

Menu Scanner | TypeScript, Python, Next.js, Node.js, OpenAI API, scikit-learn, Flask, PostgreSQL, Redis

- Built a full-stack app to analyze restaurant menus and recommend dishes based on user allergies, diet, and budget
- Prototyped collaborative filtering engine using matrix factorization (SVD) on simulated user-restaurant rating matrices to generate personalized recommendations; deployed as Flask microservice with Redis caching

Q-Learning Snake Agent | Python, NumPy

- Developed Q-Learning agent for the classic Snake game with temporal difference updates and adaptive ϵ -greedy exploration, achieving convergence across 10,000+ training episodes with tunable hyperparameters (γ, α, N_e)