Arda Kurama

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EDUCATION

University of Notre Dame | Notre Dame, IN   May 2027
Bachelor of Science   *GPA: 3.85*
Major: Computer Science, Minor: Mathematics
Coursework: Design and Analysis of Algorithms, Operating Systems, Distributed Systems, Computer Architecture, AI

TECHNICAL SKILLS

Languages: Python, C, C++, JavaScript, TypeScript, Java, Bash, HTML, CSS
Frameworks & Libraries: Flask, React Native, Django, Node.js
Platforms & Tools: Linux, POSIX, Git, REST APIs, CI/CD, GitHub Actions, AWS Lambda, Statsig, OpenAI API, Pinecone, Valgrind

PROJECTS

DineND · GitHub · App Store   Apr 2025 – Present
- Built and shipped a mobile dining app in React Native with a Python/Flask backend, deployed to the Apple App Store
- Scaled to 900+ downloads and 240+ peak daily active users, with users returning 4-5 days/week on average
- Developed "Plate Planner," an OpenAI-powered meal planner grounded in Notre Dame menu and nutrition data
- Optimized Plate Planner with retrieval-augmented generation using Pinecone semantic search, cutting OpenAI token usage 90% and latency 85%
- Improved scraping runtime 90% via concurrent extraction, caching, and structured JSON pipelines
- Automated CI/CD pipelines and OTA updates with GitHub Actions, enabling daily data refreshes with 0 downtime
- Implemented Statsig event analytics and dashboards to track feature adoption and guide product decisions

Virtual File System   Dec 2025
- Implemented a Unix-style file system in C supporting files up to ~4 MB via direct and single-indirect block addressing
- Built a disk emulator and core filesystem operations (format, mount, create/remove, stat, read/write, copyin/copyout) and validated correctness with unit tests and Valgrind-clean memory

Custom Memory Allocator   Nov 2025
- Built a custom heap allocator in C (malloc, free, calloc, realloc) using sbrk and an explicit free list
- Implemented splitting and coalescing plus configurable fit policies (first-fit/best-fit/worst-fit) to reduce fragmentation
- Measured fragmentation and allocation operations and validated correctness by overriding system malloc via LD_PRELOAD against unit tests

CampusMart Marketplace   Mar 2025 – Apr 2025
- Built a campus marketplace with user authentication, CRUD listings, search, and responsive UI in a 4-person team
- Collaborated in Agile development with peer engineers on feature reviews, design discussions, and testing practices
- Designed SQLite schema with Django ORM and implemented token-auth REST API for a rate-limited virtual currency

WORK EXPERIENCE

South Bend – Elkhart Regional Partnership   May 2024 – Present
Software Development Intern
- Designed and deployed intake, review, and analytics infrastructure for $45M in Indiana READI 2.0 grant funding, then scaled the system into reusable templates powering 5+ state-funded programs
- Automated data pipelines across grants, cohort tracking, and DEI reporting, reducing manual review time by 90%
- Enabled non-technical staff to maintain and adapt systems, reducing support requests and increasing team autonomy

Student International Business Council   Aug 2023 – Dec 2024
Microsoft Project Lead
- Led development of "Copilot College," a product demo pitched to engineers and managers at Microsoft headquarters