

ABHINAV ARUNKUMAR

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EDUCATION

Purdue University

B.S. in Computer Science and Data Science

August 2024 – Present

West Lafayette, Indiana

Carnegie Mellon University

National High School Game Academy

June 2023 – August 2023

Pittsburgh, Pennsylvania

EXPERIENCE

Nokia

May 2025 – September 2025

Software Engineering Intern

Sunnyvale, California

- Built a retrieval-augmented generation system with **Python**, **FAISS**, **Hugging Face**, and **LLaMA** to improve internal knowledge retrieval for network test engineers.
- Automated extension-library configuration across Nokia OS testbeds with an **OpenAI agent**, replacing repetitive manual setup with a consistent tool-driven workflow.

The Data Mine at Purdue

August 2024 – Present

Undergraduate Researcher, BASF Corporate Partner Team

West Lafayette, Indiana

- Analyzed three years of BASF market data using **Python** and **R**, including **19,000 state-level rows** and **400 national-level rows**, to identify factors influencing sales and market share.
- Developed competitor-market-share analyses and visualizations, then documented findings and scalable directions for future machine-learning work.

PROJECTS

ORION | *Python, Swift, SQLite, OpenAI API, macOS*

2025 – Present

- Engineered a persistent, local-first macOS assistant across **36 Python modules**, combining voice interaction, four-layer memory, supervised goals, capability routing, background workers, and sanitized replay.
- Implemented evidence-gated computer actions, risk controls, and a native Swift HUD; maintain **210 test functions** covering tools, execution, memory, workflows, and recovery.

Lyfora | *SwiftUI, HealthKit, SwiftData, Supabase*

2025 – Present

- Built a native iOS health platform spanning **38 Swift source files** for workouts, nutrition, hydration, progress, HealthKit synchronization, and social accountability.
- Added cloud account synchronization, barcode-based food logging, USDA/Edamam search, persistent local data, and release infrastructure for lyfora.org.

World Chess | *React, TypeScript, FastAPI, Redis, PostgreSQL*

2026

- Co-developed a real-time chess variant with **14 asymmetric country rule systems** that alter pieces, movement, captures, promotion, board setup, and win conditions.
- Built server-authoritative move validation and multiplayer sessions with FastAPI, Redis pub/sub, and PostgreSQL behind a responsive React client.

AutoIQ | *Next.js, Supabase, NHTSA, MarketCheck, Chrome Extensions*

2026

- Built a vehicle-intelligence platform for VIN decoding, market-based appraisals, safety and recall data, saved garages, user profiles, and valuation history.
- Integrated nine seller workflows and developed a Chrome extension that transfers saved vehicle data into third-party listing and instant-offer forms.

Let 'Em Cook | *C#, Unity, Virtual Reality*

June 2023 – August 2023

- Served as lead programmer for an original virtual-reality game developed during Carnegie Mellon University's National High School Game Academy.
- Designed and implemented custom physics, object-manipulation, and real-time interaction systems in Unity to support the game's core cooking mechanics.

TECHNICAL SKILLS

Languages : Python, Swift, TypeScript, JavaScript, Java, C, C++, SQL, R, HTML/CSS

Frameworks : React, Next.js, SwiftUI, FastAPI, Supabase, HealthKit, SwiftData, FAISS

Data / Infrastructure : PostgreSQL, Redis, SQLite, Docker, Git, GitHub, Vercel, REST APIs

Tools : Xcode, VS Code, PyCharm, Figma, Blender, Fusion 360, Unity

LEADERSHIP

Bay Area STEM Academy

February 2022 – Present

Co-founder and Code Lead

San Jose, California

- Designed and led robotics and software workshops for **100+ fourth- through sixth-grade students**, covering programming, CAD, web development, and application development while mentoring teams preparing for FIRST competitions.