

# JUSTIN SAPUN

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## EDUCATION

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**Dartmouth College**, Hanover, NH

June 2025

*Bachelor of Engineering, Major in Computer Engineering:*

GPA 3.93/4.0

Relevant Coursework: Embedded Systems, Digital Electronics, Software Development

Honors/Awards: Tau Beta Pi, Academic Distinction Citation in Modern Statistic Computing

**Bard College**, Annandale-On-Hudson, NY

June 2024

*Bachelor of Arts, Major in Computer Science:*

GPA 3.85/4.0

Relevant Coursework: Operating Systems, Algorithms and Data Structures, Machine Learning

Honors/Awards: Dean's List 6/6 Semesters, Johns Hopkins Center for Talented Youth Annual Scholarship Recipient

## PROFESSIONAL EXPERIENCE

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**Franklin Templeton**, NYC

January 2026 - Present

*Software Engineer*

- Developing data transformation pipelines that map and reconcile financial data from multiple internal and external sources, producing standardized datasets for downstream services and applications
- Designing and implementing backend services and APIs that deliver processed data to internal platforms, leveraging caching, S3 storage, and Parquet data formats for efficient data distribution
- Agile/Scrum development cycles including bi-weekly sprint planning, code reviews, and iterative delivery of systems
- Developing automated unit and integration tests to validate data transformations and ensure reliability of production data

**Nucular Tech**, Remote

August 2025 – November 2025

*Embedded Software Engineer*

- Lead the development of a 15W wireless power system for electric motorbikes that transfers energy to rotating wheels and powers integrated rim lighting effects, integrating embedded control, power electronics, and communication interfaces
- Programmed embedded firmware in C/C++ (ESP32, STM32) integrating BLE, CAN, UART for WPT power regulation
- Oversaw hardware and PCB design for the WPT resonance circuitry, current sense, and protection circuits
- Coordinated prototype demos and data reviews to guide next phase design decisions

**DALI Lab**, Hanover, NH

December 2024 - June 2025

*Software Engineer*

- Developed a wearable sensor system to detect femoral nerve palsy in infants with developmental dysplasia of the hip, aiming to improve early diagnosis for patients using Pavlik harnesses through accelerometers and gyroscopes for medical analysis
- Designed and implemented a backend system for a web application, integrating a MongoDB database with NodeJS, Bluetooth, and the frontend dashboard to sync and visualize patient data from the wearable via a user's smartphone
- Collaborated across teams to test, debug, and improve system performance before deployment in healthcare trials

**Electrified Garage**, Amesbury, MA

June 2023 - August 2024

*EV Technician*

- Conducted comprehensive diagnostics, repairs, and software updates for electric vehicles. Demonstrated strong customer service skills and prioritized safety compliance during high voltage repair or electric vehicle conversions

## TECHNICAL PROJECTS

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**Ride Sharing Platform**

November 2025 - Present

- Sole developer designing and building a full stack ride sharing platform, initially launching as an iOS app
- Building scalable backend services in Node.js with Express and Prisma ORM, connected to a PostgreSQL database
- Implementing secure phone-based user verification, ID verification, location search, route mapping, and trip visualization

**Micromouse Maze Solving Robot**

March 2025 - June 2025

- Programmed embedded firmware in C/C++ for an AVR microcontroller robot that navigates mazes autonomously using time of flight (TOF) sensors, an inertial measurement unit (IMU), encoders, and custom feedback loops
- Implemented a flood fill pathfinding algorithm and designed digital controllers for constant speed, turning, and wall following

**High Power Deicing for Heat Pumps**

September 2024 - March 2025

- Developed and tested electrothermal control hardware integrating PETD into heat pumps to improve cold climate efficiency
- Built 2.4mΩ condenser coil prototypes which reduced deicing energy from 1140 kJ to 272 kJ per cycle

## LEADERSHIP, SKILLS & INTERESTS

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**Leadership:** Dartmouth Club of New York Tech Committee, Volunteer Ski Patroller, Dartmouth Men's Volleyball

**Programming Languages:** Python, C, C++, Java, SQL, Node.js, TypeScript, Swift, STM32, AVR, ARM

**Skills:** Backend Development, REST APIs, Data Pipelines & ETL, Data Modeling, System Design, PostgreSQL, MongoDB, AWS S3, Parquet, JSON, Testing (Unit & Integration), Linux, Git, Agile/Scrum Development, Embedded Systems, Microcontrollers (ESP32, STM32), Communication Protocols (ITC, SPI, CAN, UART), BLE/Wireless, PCB design