

Dhruv Trivedi

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Software engineer focused on building reliable systems and practical tools. Interested in designing maintainable software that performs correctly under real-world constraints.

EDUCATION

University of Houston

Master of Science in Computer Science

GPA: 3.8

Houston, TX

Aug. 2024 – May 2026

Adani Institute of Infrastructure Engineering

Bachelor of Engineering in Information and Communication Technology

CGPA: 8.63

Ahmedabad, India

Nov. 2020 – Jul. 2024

EXPERIENCE

Research Assistant

University of Houston

Feb. 2026 – Present

Houston, TX

- Implemented a digital-twin for additive manufacturing (AM) of metals.
- Designed a data ingestion pipeline which aligned timestamps across multiple sensors.
- Built a reduced-order physics-informed model which to enable the digital twin.

Software Engineer (Intern)

DICOT Innovations Private Limited

Nov. 2021 – Aug. 2022

Ahmedabad, India

- Redesigned SCADA user interfaces using object-oriented design, improving usability and performance by 30%.
- Collaborated with designers and quality engineers to deliver polished software solutions on schedule.
- Conducted code reviews and mentored team of 3 engineers, reducing bug reports by 25%.

PROJECTS

Circulate | *React, Node.js, Express, MongoDB, Docker*

Containerized Library Management System

- Designed and implemented a full-stack library enrollment and lending system supporting user registration, book inventory management, and loan lifecycle tracking.
- Modeled relational-style associations in MongoDB using indexed queries for efficient overdue detection and deadline enforcement.

Hydrate | *Swift, SwiftUI, WidgetKit*

iOS Hydration Tracker

- Developed a minimal iOS hydration tracking app with interactive lock screen widgets, enabling users to log water intake and monitor daily progress without unlocking their device.
- Implemented shared data persistence using App Groups and UserDefaults to synchronize state between the main app and widget extension, ensuring real-time updates across all surfaces.

now | *C, POSIX*

Command-Line TODO Manager

- Engineered a modular todo manager across five translation units with a custom binary format using a magic-number file header for versioning, embedded daemon PID, and a reserved field block for forward compatibility.
- Wrote a full inline markdown parser supporting ten syntax forms (bold, italic, underline, strikethrough, code, highlight, dim, superscript, hyperlinks) with a parallel strip pass used for plain-text notification payloads.

SKILLS

Languages: C, Swift, JavaScript, Python, C++, Java, Objective-C

Frontend: React, HTML, CSS, SwiftUI

Backend: Node.js, Express, MongoDB, SQLite, REST APIs

DevOps & Tools: Docker, Git, Linux

Software Engineering: Data Structures, Algorithms, Object-Oriented Design, Testing, CI/CD