

# Ashwin Pulipati

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## Summary

Full Stack Engineer with a master's in computer science and a passion for building user-centric, high-performance web applications. Specialized in the React/TypeScript ecosystem while possessing deep backend experience in both Node.js and Python environments, with a proven ability to translate complex business requirements into scalable, production-ready code.

## Skills

**Languages:** TypeScript, JavaScript (ES6+), Python, SQL, HTML/CSS

**Frontend:** React, Next.js, Tailwind CSS, Redux, Shadcn/UI

**Backend & Databases:** Node.js, Django, FastAPI, tRPC, Prisma, Celery, PostgreSQL, SQLAlchemy

**DevOps, Testing & AI:** Docker, GitHub Actions, CI/CD, Playwright, Jest, Pytest, Generative AI (GPT-4, Gemini 2.5 Pro)

## Work Experience

### Software Engineer – Lean Innovation Labs LLC

Oct 2024 – Present

- Shipped critical usability features, including resizable data panels and a one-click reset, resulting in a more intuitive interface and a 15% reduction in task-related clicks.
- Eliminated over 15 critical UI/UX bugs by customizing core Ant Design components, leading to a 10% decrease in user-reported issues and a more stable production environment.
- Replaced inefficient manual Excel workflows by rapidly developing and launching two proof-of-concept applications, saving an estimated 5-8 hours of manual data entry per week.

### Product Manager Intern

Feb 2025 – Mar 2025

- Uncovered ".edu" email validation and tooltip usability issues by deploying UX surveys (500+ student responses) drove enforced validation logic and tooltip enhancements that cut support tickets.
- Analyzed survey feedback from 10,000+ users to identify key UX pain points; proposed and delivered improvements that reduced user-reported issues by 20%.
- Shadowed 10+ new users during SSO onboarding (OAuth + SMS); pinpointing 5 friction points and recommended fixes that boosted setup efficiency by 15%.
- Restructured Discord server navigation into a "Start Here" flow with guides and FAQs; cutting new-user drop-off by 15% within a month.
- Streamlined the account verification flow by integrating SSO, SMS fallback, and detailed Outlook troubleshooting reducing friction by 15% and accelerated activation time.

### Full Stack Web Developer – JS Associates

May 2020 – May 2022

- Owned the end-to-end development of a new e-commerce checkout module, optimizing both the React front-end and Node.js APIs to cut average page load time by 20%.
- Accelerated feature release cycles by building a 30+ component React library and spearheading the adoption of a new automated CI/CD pipeline with GitHub Actions.
- Increased application stability and prevented future outages by resolving critical Node.js production deadlocks and implementing a comprehensive E2E testing suite with Cypress.

## Portfolio Projects

### Lovibe – Full Stack AI-Powered Code Generation Sandbox

**Technologies:** React, Next.js, OpenAI API, Tailwind CSS, Shadcn/ui, tRPC, Prisma, Clerk, E2B Sandbox, Inngest, Neon

**Live Demo:** [lovibe.vercel.app](https://lovibe.vercel.app) | **GitHub Repo:** [github.com/Ashwin-Pulipati/lovibe](https://github.com/Ashwin-Pulipati/lovibe)

- Architected and shipped a full-stack AI platform that generates and executes code from natural language prompts within a secure, sandboxed browser environment.
- Engineered an event-driven backend using Inngest to orchestrate a multi-step AI agent (GPT-4) with custom tools that writes, reads, and executes code within a secure, Docker-defined code interpreter sandbox (E2B).
- Developed a fully type-safe API layer using tRPC and managed data persistence with Prisma on a serverless database (Neon); integrated Clerk for user authentication and implemented a tiered, usage-based credit system for API rate limiting.

### OptiPathway – F-1 Visa Timeline Assistant

**Technologies:** React, Next.js, TypeScript, Tailwind CSS, Shadcn/ui

**Live Demo:** [optipathway.vercel.app](https://optipathway.vercel.app) | **GitHub Repo:** [github.com/Ashwin-Pulipati/optipathway](https://github.com/Ashwin-Pulipati/optipathway)

- Architected and shipped a comprehensive resource hub for F-1 students, featuring interactive timeline calculators, detailed guides, and a legal disclaimer to ensure user safety and manage expectations.
- Designed a centralized state management system using React Context to seamlessly synchronize data across four distinct calculator components and a dynamic visual timeline, providing users with a real-time, unified overview of their immigration journey.
- Engineered a highly usable and accessible frontend with Next.js and TypeScript, implementing a responsive tab-based navigation system and robust client-side validation to create an intuitive and error-resistant user experience.

### Pastella – AI-Powered Vibe Coded Color Palette Generator

**Technologies:** React, Next.js, Gemini 2.5 Pro, Gemini API, Tailwind CSS

**Live Demo:** [pastella.vercel.app](https://pastella.vercel.app) | **GitHub Repo:** [github.com/Ashwin-Pulipati/pastella](https://github.com/Ashwin-Pulipati/pastella)

- Architected the application using an AI-native workflow, leveraging Gemini 2.5 Pro in a conversational process to generate and refine the Next.js project structure, React components, and backend API routes.
- Accelerated the development timeline by an estimated 40% by using the AI for rapid prototyping, interactive debugging, and boilerplate code generation, allowing a primary focus on high-level architecture and user experience.
- Engineered the core generative AI feature by crafting detailed prompts and enforcing a structured JSON schema, successfully directing the Gemini API to function as a reliable and predictable creative engine.

### **Veloria - 2D Adventure JavaScript Game Engine**

**Technologies:** HTML5 Canvas, CSS3, JavaScript

**Live Demo:** [ashwin-pulipati.github.io/veloria](https://ashwin-pulipati.github.io/veloria) | **GitHub Repo:** [github.com/Ashwin-Pulipati/veloria](https://github.com/Ashwin-Pulipati/veloria)

- Engineered a custom 2D game engine using vanilla JavaScript and the HTML5 Canvas API to render and manage game state for levels designed with the MapperMate tile map editor.
- Developed all core gameplay systems, including a state-based combat model with hitbox collision detection, waypoint-based pathfinding for enemy AI, and a dynamic sprite animation controller.
- Engineered a high-performance rendering pipeline by refactoring the initial codebase for maintainability, separating styling, and pre-rendering static map layers to an offscreen canvas to ensure a smooth 60fps experience.

### **Skyerix - Full-Stack Weather Dashboard**

**Technologies:** Next.js, React, TypeScript, React Query, Tailwind CSS, Shadcn/ui, Recharts, Leaflet.js

**Live Demo:** [skyerix.vercel.app](https://skyerix.vercel.app) | **GitHub Repo:** [github.com/Ashwin-Pulipati/skyerix](https://github.com/Ashwin-Pulipati/skyerix)

- Architected a data-intensive weather dashboard using Next.js and TypeScript, featuring a fully responsive UI built with Tailwind CSS and shadcn/ui.
- Engineered a robust client-side architecture using React Query to manage all complex server state, including asynchronous data fetching, caching, and mutations.
- Developed a suite of custom React hooks to manage client state, including a useLocalStorage hook to persist user "favorites" and "search history" and a useDebounce hook to optimize the city search API.

## **Education**

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**Master of Science in Computer Science - Rowan University** | Glassboro, NJ, USA

**Aug 2022 - May 2024**