

# Keshav Bhagat

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## EDUCATION

### University of Michigan

May 2026

*Bachelor of Science in Computer Science, Minor in Business (GPA: 3.824/4.0)*

*Ann Arbor, MI*

- **Relevant Coursework:** Operating Systems; Distributed Systems; Database Management Systems; Web Systems; Intro to AI; Data Structures and Algorithms; Theory of Computation; Computer Organization

## WORK EXPERIENCE

### swype

June 2025 – Present

*Co-Founder and Full Stack Software Engineer*

*Ann Arbor, MI*

- Built swype, an **AI microlearning app** with bite-sized lessons, adaptive quizzes, and learning analytics powered by a “swype up” interaction
- Developed a **dynamic content recommendation engine** using a 4-tier importance  $\times$  5-level familiarity matrix to personalize quiz difficulty and lesson sequencing based on user knowledge
- Shipped backend services with **FastAPI** and **PostgreSQL**, exposing **REST APIs** for lessons/quizzes, implementing **Firestore Authentication** and **JWT-based authorization** for protected routes; deployed to a VPS with **CI/CD**
- Developed the iOS client in **Flutter** with **Google OAuth** and Provider-based state management; distributing to 100 beta users via **TestFlight**

### Dream11

May 2024 – July 2024

*Software Development Intern*

*Mumbai, India*

- Built an internal release management platform using **Remix**, **Prisma**, and **MySQL**; used by **800+** employees to create and track app releases, build history, and release metadata
- Achieved **sub-100ms p99.99** core API latency by optimizing MySQL/Prisma queries through indexing and query rewrites, and by designing reusable schema patterns to support **800+ internal users**
- Built dynamic UI flows in **React/Remix** using Tailwind and reusable hooks, delivering forms, tables, filters, validations
- Wrote and executed **20+ performance tests** via **Callstack’s Reassure** enforcing a **<5% render-time regression threshold** to catch performance drops in custom React Native components before release

### Web Spiders

June 2023 – July 2023

*Software Engineering Intern*

*San Jose, CA*

- Built **EmpowerMeAI**, a job-seeking and career-advising chatbot tailored for job seekers, powered by the GPT-3.5 Turbo; ran a pilot with **75 users**, resulting in an **18% reduction in time-to-apply**
- Automated job retrieval by creating a **Python CLI** that interfaces with Glassdoor and Indeed APIs to fetch listings based on user skills and criteria

## PROJECTS

### PromptTube | *React, JavaScript, TypeScript, Manifest V3, Webpack*

May 2025 – Present

- Built PromptTube (**Chrome Web Store Featured**), a Chrome extension for YouTube with **600+ users** and **4.7-star rating**, enabling interactive video chat, summaries, multilingual Q&A, and clickable timestamps for precise navigation
- Implemented a resizable, theme-aware sidebar injected into YouTube’s DOM via MV3 content scripts and `postMessage`; persisted user settings and history via **localStorage**
- Engineered a robust **React/TypeScript MV3** transcript pipeline with retrying DOM queries, dual-format timestamp regex parsing, and an **LRU chat-history cache**; packaged with a multi-entry **Webpack** build

### Sharded Key/Value Service with Paxos Replica Groups | *Go, Paxos, RPC*

November 2025

- Built a **sharded, fault-tolerant key/value store** with **linearizable** Get/Put/Append using **Paxos replication**
- Implemented a **Paxos-backed shardmaster** (Join/Leave/Move/Query) to rebalance shards and drive reconfigurations
- Added safe shard migration with **ErrWrongGroup** handling and **dedup state transfer** for at-most-once semantics

### DealDepot | *Node.js, Express, MongoDB, React, Redux, HTML, CSS, Stripe*

May 2024 – June 2024

- Developed a full-featured e-commerce platform with React frontend and **Node.js/Express + MongoDB backend**
- Implemented advanced product browsing features by building APIs with **pagination** and dynamic filters; added a secure **Stripe-based payment system** to enable seamless checkout

## TECHNICAL SKILLS

**Languages & Frameworks:** C++, Python, Java, SQL, Go, FastAPI, Express, JavaScript, Dart, Flutter, React, Next.js

**DevOps & Infra:** PostgreSQL, MySQL, NoSQL, MongoDB, Firebase, Docker, Git, AWS, Prisma, SQLAlchemy, CI/CD