

JOYBRATA SARKAR

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Summary

I'm a software engineer with 3 years of experience designing and building SaaS products. Launched an interactive AI interview platform, which is my most notable achievement recently. Currently, I am working on the Zooper Smart ATS platform. My work spans from making key architectural decisions to delivering complete features.

Technical Skills

- **Front-End Development:** Angular | React | JavaScript | TypeScript | RxJS | NgRx | API Integration | UX/UI Design
- **Back-End Development:** Python | Node.js | Django | FastAPI | RESTful APIs
- **AI & ML:** LangChain | LangGraph | Hugging Face | LLMs | NLP | PyTorch
- **Tools & Platforms:** WebRTC | RecordRTC | Redis | Git/GitHub | CI/CD
- **Agile & Collaboration:** Scrum | JIRA | Design Reviews | Documentation | Code Reviews | Cross-Functional Collaboration

Work Experience

• Full stack Engineering – AI/ML, Impacteers

- Onsite* *Dec. 2024 – present*
- **Leading** multiple module including Ai interview
 - **Architected and deployed** a scalable **microservices-based system** for **Zooper Smart ATS**
 - * **Designed** the project architecture using **Creational Patterns**, ensuring modularity, robust **error handling**, comprehensive **logging**, secure **authentication**, effective **rate limiting**, and **environment-based configurations**
 - * **Dockerized** all microservices to enable **independent deployment** and **rapid iteration**
 - Engineered a **Job Description Creator** using **LangGraph** and adaptive **RAG**, cutting generation time from **4s** to **0.1ms** with a hybrid Redis caching strategy
 - * Implemented **MongoDB vector storage** for fast, accurate semantic retrieval
 - * Leveraged **Redis Search** with **key-based** and **semantic caching** techniques for instant responses
 - * Applied **cache invalidation** to maintain fresh, relevant data with **ultra-low latency**
 - Developed **candidate scoring and reporting system** to improve hiring accuracy
 - * Combined **lexical, phonetic, and semantic search** to compute candidate-job relevance scores
 - * Generated detailed reports using **LLMs** analyzing scores, candidate data, and job descriptions
 - * Reduced recruiter evaluation time by providing clear, data-driven insights
 - Architected **AI Interviewer Platform** — real-time system leveraging **WebSocket**, **Redis Streams**, **Celery**, and **FastAPI**
 - * Utilized **WebSocket** for real-time session handling and bi-directional communication between frontend and backend
 - * Streamed audio/video chunks through a **Redis broker** for parallel processing by distributed **Celery workers**
 - * Designed asynchronous tasks for **speech recognition (Wav2Vec2)**, **pause detection (Silero VAD)**, and **dynamic question generation (LangGraph)**
 - * Maintained live session state in **Redis** for seamless frontend updates and consistent interview flow

• Software Engineer – Front-End, Supersourcing

- Onsite* *Dec. 2022 – Nov. 2024*
- **Shipped three SaaS products**, including an AI interview platform, ATS, and vendor management tool, ensuring maintainability and scalability.
 - **Optimized front-end architecture with NgRx state management**, lazy loading, and component-level caching to enhance performance under heavy user load.
 - **Engineered an interactive AI interview platform with integrated proctor mode**, featuring dynamic question generation, real-time sentiment analysis, and concurrent multi-candidate support using Redis and FastAPI WebSocket communication.
See demo.
 - **Designed a Redis-based session management system**, improving state tracking and reducing latency in real-time interactions.
 - **Reviewed and optimized codebase**, ensuring best practices in maintainability, readability, and efficiency.

Personal Projects

• AI-Driven Developer Search

- NLP-Based Developer Search Tool (Source Code)* *2024*
- **Built an AI-driven developer search engine leveraging LLM-based NLP processing**, TF-IDF retrieval, and MongoDB indexing for rapid search.
 - **Implemented** cosine similarity matching with TF-IDF vectorization for ranking and retrieving top candidates.
 - **Enhanced** query refinement by creating a dynamic system for asking clarifying questions when the initial query is incomplete.

Education

- **Master in Computer Application**, Bhilai Institute of Technology, Chhattisgarh *2020 – 2022*
- **Bachelor of Computer Application**, KLE Society's S Nijalingappa College, Bengaluru, Karnataka *2017 – 2020*