

Abhay Pratap Singh

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Education

Ajay Kumar Garg Engineering College, Ghaziabad Ghaziabad, India
Bachelor of Technology in Computer Science and Engineering (AI and ML) 2021 - 2025

Experience

Software Development Engineer in Test (SDET) Bangalore, India
CodeChef January 2025 – Present

- **Backend Course Development:** Designed and authored in-depth courses on **Node.js** and **Express.js**, covering RESTful APIs, middleware, authentication, and deployment.
- **Flask Web Development:** Created a project-based course on **Python Flask**, covering routing, templating with Jinja2, and backend integration for beginners.
- **DSA Content Engineering:** Developed and optimized data structures and algorithms problems for contests, ensuring coverage across easy to hard levels.
- **C# for DSA:** Built efficient DSA solutions in **C#**, highlighting performance and readability for learners.
- **Educational Content Creation:** Produced animated tutorials using **Manim** to visualize core DSA concepts and used **11Labs** for AI-generated TTS voiceovers.
- **SQL Course Development:** Built SQL and advanced SQL tutorials with hands-on projects to strengthen learners' understanding of database querying and design.

Projects

SignLingo ↗ (Aug 2024 – May 2025)

- **Leadership & Vision:** Led a 4-member team to build a real-time Indian Sign Language translator bridging gaps for the deaf-mute community.
- **ML-Powered Translation:** Trained a custom **MobileNetV2** CNN using **PyTorch**, achieving **90%+ accuracy** in real-time gesture recognition via webcam.
- **Research Publication:** Published “*Breaking Barriers: SignLingo as a Two-Way Communication Aid*” detailing the system’s social and technical impact.

CabPool ↗ | talanayush/CabPool (Apr 2025)

- **End-to-End App Development:** Built a campus-centric cab pooling platform with **ReactJS**, **Tailwind CSS**, **Node.js**, and **Express.js**.
- **Key Features:** Integrated in-app chat, automatic ticket expiry, JWT auth, and **UPI-based payment** with **PWA** support.
- **Database & API Design:** Designed and deployed scalable REST APIs using **MongoDB Atlas** for real-time ride management.

Skills

- **Languages:** Proficient in C, C#, Python, C++, HTML5, CSS, JavaScript, TypeScript, and SQL.
- **Frameworks:** Experienced with **ReactJs**, **NextJs**, **NodeJs**, **Flask**, **Jinja2**, and **ExpressJs**.
- **Libraries:** Skilled in **TailwindCSS v3**, **Manim**, **11Labs**, **Mongoose**, and **Bootstrap v5**.
- **Tools/Utilities:** Proficient with Git, VS Code, MySQL, MongoDB, SQLite, SQLAlchemy, Linux, and Docker.

Achievements

- Earned a **3-star rating** (1636) on **CodeChef** by solving 900+ algorithmic challenges; profile available at CodeChef.
- Ranked as a **Knight** (1882) on **LeetCode** by solving 400+ problems, ranking in the top 5%; profile available at LeetCode.
- Completed 3200+ problems across various platforms, including Codolio; profile available at Codolio.

Certificates

- **SignLingo Research Paper:** Link.
- **TCS Codevita:** Rank 3524 Link.
- **Geekathon:** Reached to finals Link.
- **100xdevs:** Web Development Course by Harkirat Singh Link.