AKSHAJ RAO

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Department of CSIS / Department of Physics

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Academic Qualifications

Year	Degree/Certificate	Institute	CGPA/ %
2022 - Present	B.E CSE and M.Sc Physics	Birla Institute of Technology and Science - Pilani	9.93/10
2022	CBSE (XII)	Sri Kumaran Children's Home, Bengaluru	98.4%
2020	CBSE (X)	Sri Chaitanya Techno School, Bengaluru	94.6%

Scholastic Achievements

- Secured **All India Rank 3103** in **JEE Advanced 2022** among the 1.5 lakh shortlisted candidates.
- Received **100% merit scholarship** for being in the top 1% of students in the batch of 2022 for semesters 2, 3, 4 and 5.
- Among the top 0.7% of the 1.02 million applicants in **JEE Mains 2022**.

Work Experience

Amazon, Bengaluru   **May 2024 - July 2024**
Summer Intern   *Bengaluru, India*

- Worked on creating a proof-of-concept for the back-end for an interactive user bot, utilizing **webhooks**, **AWS Lambda**, and serverless technologies to manage sequential and non-blocking interactions across multiple everyday services.
- Developed and optimized front-end interfaces for scalable web applications, ensuring smooth user experiences and seamless integration with back-end systems to support dynamic features such as payments, interactions, and transitions.
- Integrated **AWS S3**, **CloudFront**, and **DynamoDB** for secure storage, content delivery, and efficient data management.

Projects

ImageUtils ⭕
- Wrote a general-purpose image manipulation CLI tool in **Java**
- Used **imgscalr** to resize images in controlled steps so as to reach the target size iteratively while minimizing loss in quality.
- Enhanced image processing by implementing affine transformations for efficient image rotation and integrating EXIF flag checks to ensure proper orientation for photos captured on mobile devices.

Blip ⭕
- Created a web-based application to facilitate communication among users in virtual rooms, using **Node.js**.
- Integrated websockets and client-server interactions using **Express** and **Socket.IO**
- Designed a simple front end using AJAX, Handlebars, and a HTML-CSS-JS stack

Camera-App ⭕
- Created a camera app using Java to click and save images from any connected web-cams.
- Designed an intuitive GUI using **JavaFX**, and implemented event handling and asynchronous processes to ensure smooth real-time camera feed and user interaction.
- Ensured **cross-platform compatibility** across all x86 systems by leveraging Java's platform-independent features, enabling functional operation regardless of the underlying operating system.

Technical Skills

Languages: *Advance:* Java | *Intermediate:* C, Python | *Basic:* JavaScript, Go, Lua, Bash, LaTeX, HTML, C++
Technologies: Docker, AWS, Vim, Unix , Git, SQL Databases, NoSQL Databases

Frameworks and Libraries: Django, Express, FastAPI, Java Collections Framework, Gin

Positions of Responsibility

Back-end development lead - Coding Club   **2024-Present**
- Guided and mentored students in the field of back-end development
- Developed and maintained APIs for the college during fests and major events.

Relevant Courses   [A] - outstanding performance

Intro To Computer Programming [A]	Object Oriented Programming*(Ongoing)
Mathematics - II (Linear algebra) [A]	Discrete Structures for Computer Science*(Ongoing)
Probability and Statistics [A]	Logic in Computer Science*(Ongoing)
Digital Design*(Ongoing)	Computational Physics*(Ongoing)