Rahul Lalwani

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Date of Birth: 27th March 2003

EDUCATION

Madhav Institute of Technology & Science   Gwalior, India
B. Tech in Artificial Intelligence and Machine Learning, **CPI: 9.0 CGPA**   *Aug. 2021 – May 2025*

Kendriya Vidyalaya   Nimach, India
Physics Chemistry Mathematics, **Percentage: 86%**   *Aug. 2018 – May 2020*

EXPERIENCE

Accenture India   Hyderabad, Telangana
Data & AI Intern   *Feb 2025 — Jun 2025*

- Developed Snowflake stored procedures to automate data ingestion and dynamic warehouse scaling.
- Integrated AWS services (Lambda, Scheduler) with Snowflake for scheduled ETL workflows.
- Contributed to a Gen AI project to map employee skills with emerging job trends, enhancing internal mobility insights.

Linnaeus University   Remote
Research intern   *Jan 2024 – Oct 2024*

- Developed new architecture for kidney tumor diagnosis, achieved detection accuracy of 98%.
- Implemented nnUNet and DeepLab-UNet architectures, enhancing segmentation efficiency by 2%.
- Analyzed datasets such as Kits 19 for precise diagnosis and recommendations.

IHUB DivyaSampark, IIT Roorkee   Roorkee, India
Hackathon Chanakya UG Fellowship   *June 2023 – Oct 2023*

- Created a Heart and Respiratory Sound Expert System using deep learning, for better diagnosis of Heart Patients, achieving 86% accuracy with 1D CNNs
- Trained CNN models on public datasets, reducing diagnostic errors by 5%.

PROJECTS

Chord Craft | *Stremlit, librosa*

- Built a convolutional neural network model to identify ukulele chords from songs using Python, Keras, and TensorFlow, achieving 98% accuracy.
- Processed datasets with librosa for audio analysis, implementing techniques to extract relevant features.

Research Paper Sentence Categorizer | *NLP, TensorFlow Hub, PubMed 200k RCT dataset*

- Developed a machine learning model to classify sentences in medical research abstracts available in PubMed 200k RCT dataset into categories: Objective, Background, Methods, Results, Conclusion.
- Implemented the Universal Sentence Encoder for advanced feature extraction, Improving classification accuracy from a baseline of 72.18% to 80.14%.

ExcaliDraw – Real-Time Drawing & Chat App | *Next.js, TypeScript, Express, WebSockets, Prisma, Turborepo.*

- Built a collaborative drawing app with real-time sync and chat using WebSockets and Prisma.
- Structured the codebase using a monorepo (Turborepo) with separate WebSocket server, REST API, and frontend apps.
- Implemented JWT-based auth, responsive design, and handled deployment of multi-app architecture.

Crypto Wallet Application | *Next.js, Tailwind CSS, Solana Web3.js, Alchemy API, BIP39*

- Developed a secure and user-friendly wallet manager that generates Solana wallets from mnemonic seed phrases.
- Integrated public/private key handling, RPC-based balance fetching, and approximate USD conversion for each wallet.
- Leveraged Web3 libraries and Alchemy API to provide real-time blockchain interactions within a modern frontend.

PUBLICATIONS

- Contributed a chapter on "Heart and Respiratory Sound Expert System" to the book **Cardio-Respi Signal Processing** published by CRC Press, which is Scopus indexed.
- Published the research paper "Deepfake Detection: A Survey of Methods and Recent Advances" in the book **Innovative Approaches in Engineering and Management** (Proceedings of ISCMCTR-2024).

ACHIEVEMENTS

- Secured **AIR 418 in GATE 2025 Data Analytics (DA)** and **AIR 421 in GATE 2024 DA** Branch.
- Achieved **2nd position** in India's largest techfest at **IIT Roorkee** in the Cloud Coverage Determination competition.

TECHNICAL SKILLS

Languages: Python, JavaScript, Java, C, C++, SQL, HTML/CSS
AI/ML & Data Science: PyTorch, TensorFlow, Keras, MONAI, librosa, pandas, NumPy, scikit-learn, Matplotlib
Web Development: React.js, Next.js, TypeScript, Tailwind CSS, Prisma, WebSockets, Express.js , PostgreSQL
Web3 & Blockchain: Solana Web3.js, Ethereum (basic), Alchemy API, BIP39, ed25519-hd-key
Cloud & Data Engineering: Snowflake, AWS (Lambda, Scheduler)
DevOps & Tools Git, GitHub Actions, Turborepo, VSCode, GCP, Colab, PyCharm, IntelliJ, Eclipse

CERTIFICATIONS

- Pytorch for deep learning BootCamp, Andréi Neagoine
- Tensorflow developer certificate Course, Andréi Neagoine
- python to Interact with Operating System, Google, Coursera
- Java (Core) fundamentals SIP, MITS, Gwalior