

MOHAMMAD HASNAIN RAZA

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EDUCATION

University of Southern California Los Angeles, CA
Master of Science - Computer Science (Fall 2025) August 2025-December 2027

Coursework: Database Systems, Programming System Design, Computer Networks

RV College of Engineering Bengaluru, India
Bachelor of Engineering - Aerospace Engineering (CGPA: 9.1/10.0 – Rank #2/73) August 2018-July 2022

Coursework: Engineering Mathematics I-IV, Scientific Computing using MATLAB, Computational Advanced Numerical Methods, Programming in C, Mobile Application Development, Computational Fluid Dynamics, Finite Element Methods

SKILLS SUMMARY

- Data/Analytics: Pandas, NumPy, PowerBI, Linear Regression, t-test, Z-score outlier detection, Hypothesis Testing, A/B Testing
- ML/AI: TensorFlow, Keras, PyTorch, Scikit-learn, Hugging Face Transformers, NLP
- Languages and Tools: Python, SQL, MATLAB, C, C++, Java, JavaScript, Jupyter Notebooks
- Software/Dev: Git, Docker, REST APIs, Django, ServiceNow, Pega PRPC

EXPERIENCE

Deloitte Bengaluru, India
Technology Analyst (Full-time) August 2022-November 2024

- Automated customer creation and modification workflows in Pega PRPC, validating inputs, orchestrating approvals, and invoking downstream REST APIs for 7,500+ new and 12,500+ updates, achieving a 10x throughput increase
- Measured automation impact by applying Welch two-sample t-test on processing-time samples before and after deployment, confirming the observed 44% latency reduction was statistically significant
- Built 100+ ServiceNow business reports integrated into 3 interactive dashboards for dynamic performance and SLA monitoring
- Designed and optimized LLM prompt templates (few-shot, chain-of-thought) and integrated RLHF feedback loops to enhance enterprise model response relevance

Defence Research and Development Organisation (DRDO) Bengaluru, India
Research Intern (Part-time) January 2022-August 2022

- Applied linear regression to correlate lift and drag coefficients with separation trajectories in weapons-bay store dynamics (L/D=5), identifying key predictors for release behavior
- Automated transient CFD simulations in PyFluent and applied Z-score outlier detection to clean large pressure and velocity datasets before regression and trend analysis
- Developed MATLAB scripts to post-process simulation outputs, generating 3D trajectory animations and time-history plots for quantitative flight-path assessment

Prana.ai Remote
Founding Engineer September 2019-December 2021

- Built end-to-end ML pipelines to preprocess and augment 5M+ MRI/CT scans (normalization, patch extraction, data balancing) for training and evaluation
- Implemented a depthwise separable CNN for real-time 3D segmentation (<0.8s inference), increasing diagnostic efficiency
- Developed SO(3)-equivariant CNN-based super-resolution techniques, improving image clarity by ~35%

KEY PROJECTS

Project Vimaan | AI CoPilot Los Angeles, California
(In Progress) September 2025-December 2025

- Engineered the data-generation pipeline producing 30,000+ labeled voice-command examples via schema-driven Python scripts and paraphrasing via Pegasus and FLAN-T5 to augment dataset
- Trained and fine-tuned a joint intent-and-slot NLU model (DistilBERT), optimized for offline real-time inference, and integrated it into an X-Plane simulator plugin with thread-safe communication and TTS feedback

Team Antariksh Bengaluru, India
Project Head and Engineer September 2018-August 2022

- Led a 100+ member team for the development of RVSAT-1 2U CubeSat (launched Dec 2024 on ISRO PSLV C-60) and the design of ReSOLV-1 sounding rocket.
- Collaborated to perform statistical calibration and cleaning of ground-test telemetry data (accelerometer, gyroscope, pressure) to ensure accurate sensor measurements and streamline test cycles