ARYAN JOSHI

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SUMMARY

Passionate software engineer with experience working at top-tech institutions such as ISRO, DRDO and IIT-BHU

WORK EXPERIENCE

ISRO (Indian Space Research Organization) May 2025 - Present

Software Engineering Intern Architecture | Documentation

Developed full-stack software for satellite calibration (GSICS), now used by ISRO for **satellite data processing** and **analysis**.

- Implemented parallel computing, reducing processing time by **83%** while efficiently handling over **5 TB** of satellite data.
- Developing **PyQt** based **GUI** for real-time and long-term satellite data analysis, enhancing workflow efficiency.
- Engineered in collaboration with ISRO scientists, the software is live at ISRO's Data Center – MODSAC.
- **Frontend:** Python, PyQt. **Backend:** Python, NumPy, Pandas, multiprocessing, matplotlib, SciPy

DRDO (Defence Research and Development Organisation) Jan 2025 – Apr 2025

Software Engineering Intern Demo | Architecture | Documentation

Engineered AI-powered search engine for DRDO eLibrary, integrated with real-time Autocomplete-search-suggestions

- Engineered an **AI-driven search summary** feature using **OpenAI API**, improving search relevance and user engagement.
- Implemented real-time **autocomplete search suggestion** using **Elasticsearch**, indexing over **300,000+** library resources.
- **Frontend:** CSS+HTML, AJAX, jQuery. **Backend:** Python, Flask, OpenAI API, REST API. **Database & Search:** Elasticsearch

IIT BHU (India Institute of Technology, BHU) Jun 2023 – Oct 2023

Machine Learning Intern Architecture | Documentation

Developed a Language-Identification ML model for 3 low-resource Indian languages (Bhojpuri, Maithili, Magahi)

- Implemented **Random Forest Classifier**, achieving an accuracy of **99.61%**, a **2%** improvement over previous model.
- Automated parallel corpora cleaning using **Python scripts** and **Language Identification** model, saving time by **90%**
- **Tech Stack:** Python, Random Forest Classifier, scikit-learn, pandas, NumPy, SciPy

RESEARCH

Research Publication (Under Review) | *LaTeX*

Aryan Joshi, A.K. Singh: Bridging the Linguistic Gap: Building a Language Identification Model for Low-Resource Indian Languages

- Documented the computational methodologies used to create **Language Identification model** with max accuracy of **99.61%**

PROJECTS

Virtual Painter | *C++, OpenCV* GitHub

- Transform your computer screen into a virtual canvas and translate physical strokes into virtual drawings on the screen
- Utilizes **real-time video-processing** with **contour analysis** & **HSV color space** using **Mat**,**Vector**,**Scalar** & **Point**

SKILLS

- **Programming Languages:** Python, C++, C
- **Libraries:** PyQt, jQuery, OpenCV, NumPy, Pandas, KD-Tree, Matplotlib, scikit-learn, SciPy, Multiprocessing
- **Frameworks:** Flask, PyTorch, Hugging Face Transformers
- **Database & Search:** Elastic Stack (Elasticsearch, Kibana)
- **Version Control:** Git, GitHub
- **OS:** Linux
- **Documentation:** LaTeX

EDUCATION

Bachelor of Technology, Computer Science and Engineering 2021-2025

Rajasthan Technical University, Kota, Rajasthan, India

CGPA: 9.18 / 10.0 (as of VI semester)

LEADERSHIP

President, Start-up Cell (IIC), Rajasthan Technical University 2023-Present

- Mentored startups in collaboration with iStart, Government of Rajasthan.
- Spearheaded an internship drive with **35+ startups**, offering internship opportunities to **118** students.

ACHIEVEMENT

Indian Navy, SSB Recommended 2021

- Selected as one of only **33** candidates nationwide for **Permanent Commission** in the **Indian Navy**.