

Pranav Goswami

Final | Computer Science and Engineering | IIT Jodhpur
+919328276067 | goswami.4@iitj.ac.in | [G](#) | [in](#) | [E](#)

EDUCATION

Indian Institute of Technology Jodhpur, India

Bachelors of Technology in Computer Science and Engineering

Nov 2020 - Aug 2024

Current CGPA: 8.61/10.0

St. Mary's School, Ahmedabad

Secondary & Higher Secondary Education

June 2008 - April 2020

HSC: 92.33% · GUJCET State Rank: 20 · SSC: 94 %

EXPERIENCE

LFORTRAN | Compiler Developer

C++ · C · Python · Fortran · Compiler Design

Aug 2022 - Present

NumFocus Small Development Grant - Round 4

Aug 2023 - Present | [G](#)

- Configured integration of LFortran into SciPy build system utilizing CMake, aligning output of packages (e.g., specfun, fitpack, minpack) with GFortran, & ensuring robustness by validating test suites consisting of over 3000 tests/package.

GSI Technology

Oct 2022 - May 2023 | [G](#)

- Prioritized focus on efficiently compiling the benchmarked Legacy and Modern-Minpack codebases using LFortran.
- Ensured alignment of the output with GFortran, addressed any missing features, and resolved discrepancies. Leading to the successful compilation & execution of both Legacy & Modern-Minpack by LFortran. Benchmarked against GFortran, LFortran scored 1.265 relative to GFortran.

NumFocus Small Development Grant - Round 3

Aug - Oct 2022 | [G](#)

- Introduced diverse functionalities such as implicit typing, statement functions, implied do loops etc.

WARNER BROS. DISCOVERY | Software Development Engineer Intern

PySpark · Databricks · Amazon Web Services (AWS) · Feature Engineering · Terraform · OpenAI · Streamlit

May - Aug 2023

- Led the creation of a seamless feature engineering platform, driving the integration of a robust engine, user-friendly UI, and low-code SDK. Orchestrated these components to empower comprehensive system functionality.
- Leveraged **Databricks** as cloud computing platform, interfacing seamlessly with **AWS** and **Delta tables**. Oversaw diverse data operations, including data insights, filters, joins, groupby aggregation, data transformations, etc.
- Established a robust DEV env, encompassing infrastructure setup & CI/CD integrations. Utilized **Terraform** for **AWS infrastructure deployment**. Ported OpenAI APIs & **PySpark/EnglishSDK** for a prompt-based data engineering feature.

GOOGLE SUMMER OF CODE 2023 - FORTRAN-LANG | Open source Development

C++ · C · Python · Fortran · Compiler Development

May - Aug 2023

Website [G](#) | [G](#)

- Enhanced compatibility of LFortran with SciPy codebase, implementing functionalities like common, block data, save, data implied do loops, external, etc. Reduced integration issues by 50% via continuous integration (CI) & rigorous testing.
- Attained 100% compilation of SciPy to ASR. This effort has led to the compilation of a notable 77.01% of files into LLVM. Initiated incorporating LFortran into SciPy's build system and executing tests.

PROJECTS

OCR Application | Dr. Pushpendra Singh

Flutter · Dart · Google ML Kit · Text to Speech · Firebase · Firestore · Google Cloud Storage · Imgur API

April 2022



- Lead team and developed OCR pipeline to extract text from photos and convert to.txt,.mp3,.csv in a mobile app. Google authentication login, gallery and camera upload, one-tap text extraction, text-to-speech.

Covid-19 Detection using chest X-Ray | Dr. Richa Singh

Python · OpenCV2 · Keras · Pandas · NumPy · Matplotlib

April 2022

Dataset [G](#) | Website [G](#) | [G](#)

- Trained deep learning models (e.g., VGG-19, EfficientNet B3, ResNET-50) to detect COVID-19 through chest X-rays. Achieved a 96.4% accuracy on the pre-trained U-NET model after performing lung segmentation using U-NET.

ACHIEVEMENTS

- Secured **Rank 1** in Data Structures & Algorithms, Machine Learning, Operating Systems, ML with Big Data.
- Championed the team to victory in Quantum Conundrum challenge at Prometeo 2023.
- Solved 500+ questions of DSA, **Global rank 3892** on interviewbit.

TECHNICAL SKILLS AND RELEVANT COURSEWORK

Skills: Full Stack Web, App Dev, DSA, Compiler Dev, Machine Learning, Data Engineering

Languages: Python, C++, PySpark, Dart, Fortran, Javascript, MySQL | **Frameworks:** Django, Flutter, ReactJS

Miscellaneous: Git, Github, Firebase, REST-API, Google Cloud

Libraries: Pandas, NumPy, Matplotlib, Seaborn, Sklearn, PyTorch, Keras

Computer Science: Computer Networks, Cryptography, Cyber Security, Data Structures and Algorithms, Databases, Operating Systems, Pattern Recognition and Machine Learning

Mathematics: Probability Statistics & Stochastic Processes, Mathematics for Computing

POSITIONS OF RESPONSIBILITY

- Designated as **Head Web-Development** for **Sandstone 3.0** at IITJ.
- Stepped into the position of **Digital Media Head** for Pheme, the newsletter club at IITJ.
- Appointed as **Head, App Development Team, Prometeo'23**, the annual technical and entrepreneurial fest of IIT Jodhpur.
- Elected as **Assistant Head, Tech Team, Prometeo'22**.