

BISHAL BISWAS

SDE / Backend Developer • Python • Java • REST APIs • SQL

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SUMMARY

Computer Science graduate with hands-on Python development experience — building REST APIs, automation pipelines, and data processing systems. Familiar with Java, SQL, Azure DevOps, and CI/CD workflows. Quick learner with strong fundamentals in DSA and OOP, seeking a Junior SDE or Backend Developer role.

TECHNICAL SKILLS

Languages: Python (primary), Java, SQL, C++, HTML/CSS

Backend & APIs: REST API design, FastAPI, SQLite, data validation, JSON, HTTP methods

Python Libraries: OpenCV, TensorFlow, Keras, NumPy, FuzzyWuzzy, Tkinter

Cloud & Tools: Microsoft Azure, Azure DevOps, CI/CD Pipelines, Git, GitHub, VS Code, Jupyter Notebook

PROJECTS

URL Shortener API *Python · FastAPI · SQLite · REST API · Git*

- Built a production-style RESTful URL shortener API using FastAPI and SQLite — supporting endpoint to submit a long URL, receive a unique short code, and redirect to the original URL via GET request.
- Implemented Pydantic-based request/response validation, duplicate URL handling, and a click-count tracker per short link to monitor usage; structured the codebase using modular routers and a service layer.
- Wrote a Python test script to automate endpoint testing (shorten, redirect, stats), and documented the API with FastAPI's auto-generated Swagger UI for easy review.

Automated Image Quality Pipeline *Python · OpenCV · TensorFlow · Keras · Azure*

- Built an end-to-end Python pipeline to process batches of low-resolution images using OpenCV and a CNN model (Keras/TensorFlow), generating enhanced output images automatically.
- Integrated Azure Blob Storage for input/output file handling and added a logging module to track processing status and flag failures.
- Benchmarked model accuracy across multiple configurations; tuned parameters to achieve consistent quality improvement on test datasets.

WORK EXPERIENCE

DevOps Intern | Celebal Technologies

June 2024 – August 2024

- Wrote Python scripts to automate configuration and validation of virtual machines and virtual networks on Microsoft Azure, reducing manual setup time.
- Monitored and debugged CI/CD pipeline workflows using Azure DevOps; identified and fixed configuration errors in Python-based deployment scripts.
- Collaborated with the team to ensure all Python automation workflows and deployment processes met quality and platform standards before production release.

Research Trainee | Jadavpur University

Jan 2024 – April 2024

- Built image processing and super-resolution pipelines in Python using OpenCV, TensorFlow, and Keras to enhance low-resolution images.
- Designed and ran performance benchmarks to evaluate model accuracy; tuned hyperparameters to improve processing output quality.
- Troubleshooted inconsistencies in Python data pipelines and implemented corrective measures, improving overall processing reliability and accuracy.
- Documented research findings and model evaluation results in structured technical reports.

EDUCATION

B.Tech – Computer Science Engineering

Techno India University

CGPA: 7.87

Higher Secondary (12th) – 70%

Lions Public School