Abhishek Chaturvedi

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EXPERIENCE

Senior Software Engineer
Apisero   **February 2022 – Present, Bangalore**

· Developed a Python application leveraging key image processing algorithms to seamlessly stitch overlapping images, improving overall project efficiency.
· Designed and deployed a serverless API using AWS Lambda, Python Events, and AWS Gateway API.
· Implemented a Python-driven solution using TensorFlow and MediaPipe for precise Pupil Distance (PD) and Seg Height (SH) measurements.
· Designed EdventureMate, a Python-driven web application with Django-powered RESTful APIs, driving a 40% increase in productivity and a 15% performance improvement.
· Developed OptiQual, a Python-centric solution for ensuring pupil image quality, resulting in a 40% reduction in examination time.

Software Developer
ICICI Lombard GIC Ltd   **July 2020 – February 2022, Mumbai**

· Developed a customer communication engine and upgraded centralized ILESB services for seamless integration.
· Integrated an NLP-based DialogFlow framework and Flutter kit to record and analyze water intake, deploying on AWS Lambda using a Serverless architecture.
· Led a team of three developers to improve database queries, contributing to customer base growth.
· Assisted team members with logic development for various projects.

PROJECTS

OptiQual: Automated Pupil Image Analysis System
· Designed a comprehensive image analysis solution in Python, conducting multiple validation checks to ensure the quality of the pupil photo, including brightness, dust, image quality, blurriness, and dirt assessments.
· Incorporated an essential feature to verify the visibility of veins in the eye for accurate diagnosis, leading to a 40% reduction in examination time.

Pupils Mosaic: Seamless Image Stitching Tool
· Led the development of an image processing tool, 'Pupils Mosaic', creating a seamless panoramic image from overlapping images. The tool leveraged Python and key algorithms (SIFT, FLANN, RANSAC), significantly enhancing image processing efficiency.
· Executed the feature detection and matching using SIFT and FLANN respectively, and estimated homography matrices for precise image alignment with RANSAC. The alignment enabled a weighted average combination of images into a seamless mosaic.

Visual Fitment Assistant
· Built an innovative solution, 'Visual Fitment Assistant', using Python, TensorFlow, and Google's MediaPipe library for accurate Pupil Distance (PD) and Seg Height (SH) measurements.
· Devised a Python algorithm with the MediaPipe library for computing the facial distance from the camera, leading to improved measurement precision.
· Developed a system for ensuring optimal lighting conditions and facial alignment before camera capture, boosting image capture quality.

Student Tours Management System
· Contributed to the development of a Python-based web application for managing educational tours. The platform provides a seamless experience for parents to register and make payments for trips.
· Developed RESTful APIs using Django and integrated key features of the Admin Panel into a new module, increasing productivity by 40%.
· Optimized queries using Python, leading to a performance improvement by 15% and enhancing overall system efficiency.

EDUCATION

Master of Computer Applications
National Institute of Technology Karnataka · 2020 · 7.03

Bachelor of Computer Applications
Maharaja Ranjit Singh College of Professional Sciences, Indore · 2017 · 68%

SKILLS

Python | Java | JavaScript | TypeScript | C++ | Git | HTML/CSS | Django | Flask | Bootstrap | TensorFlow | MediaPipe | OpenCV | Selenium | Scikit-learn | PSQL | MySQL | REST | SOAP| Oauth 2.0 | JDBC | JMS | AWS | Azure | Microservices | Postman | Agile methodologies | Jira | Unix | Docker | GitHub Actions | GitHub | Bitbucket | PyCharm | Jupyter Notebook | Visual Studio Code