Er. Santosh Pandey

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EDUCATION

IOE, Thapathali Campus
Thapathali, Kathmandu
Bachelor in Computer Engineering ; Percentage: 74.58
Sept. 2019 – Jul. 2024

Kathmandu Model Higher Secondary School
Bagbazar, Kathmandu
High School, Science; GPA: 3.43
2017 – 2018

PROFESSIONAL SUMMARY

- Python Developer with over 2 years of experience building scalable backend solutions and microservices using Django, Flask, and FastAPI
- Adept at Agile workflows, CI/CD(GitHub Actions, Docker Compose), and cross-functional collaboration
- Strong problem solver with a focus on performance and system design

TECHNICAL SKILLS

- **Languages**: HTML, Python, Javascript, C++, SQL, NoSQL

- **Frameworks**: FastAPI, Flask, Django, Robocorb RPA, Crawl4AI, ReactJS, NextJS

- **Tools**: Git, Docker, Nginx, AWS, Azure, Linux, Firebase, MongoDB, PostgreSQL, Elasticsearch

- **Data Science and ML**: Pandas, Numpy, Scikit-learn, Seaborn, Computer Vision, NLP, RAG, Model Optimization and Hyperparameter Tuning, TensorFlow, PyTorch, Embedded Machine Learning

- **Practices**: Microservices, REST APIs, CI/CD, Agile

- **Coursework**: : Artificial Intelligence, Data Mining, DSA, OOP, DBMS, Probability and Statistics, Numerical Methods, Theory of Computation, Networking

EXPERIENCE

Freelancing
Remote
Software Engineer
Dec 2024 - Present

- **Bhasasanjal**: Bhasasanjal is a language learning platform built on **FastAPI** and react js with **MongoDB** as the database.(System Architecture Design, Devlopment and Deployment)
- **Trekpal Nepal**: Trekpal Nepal is the hiking and trekking website for the tourists built on reactjs and **Django** with **MongoDB** as database.(System Architecture Design, Devlopment and Deployment)

QuickFox Consulting
Baneshwor, Kathmandu
Software Engineer
Jan 2024 - Dec 2024

- **Quick CCA**: Quick CCA is an automation system for automatic cheque processing (using **OCR**) and clearance for banking systems built on **DRF** and **ReactJS**; Currently deployed at Global IME Bank.
- **RPA (Robotic Process Automation)**: Utilized the Robocorp RPA library to design and implement automation solutions, optimizing business processes by automating repetitive tasks and improving operational efficiency.
- **Signature Verification**: Developed a signature verification system using a Siamese network to accurately distinguish between authentic and forged signatures, enhancing security and fraud detection capabilities.
- **QuickRef**: Built a chat application using RAG + LLaMA 3, improving information retrieval accuracy and efficiency for bank employees.

AutomateBoring
Sarasota, Florida
Software Engineer(Remote)
May 2024 - Aug 2024

- **Learning Management System (LMS)**: Designed and developed a robust Learning Management System. Implemented secure user authentication, video streaming, quizzes and interactive features to enhance the educational experience.

- **Data Extraction Automation**: Developed an automated data extraction solution to efficiently retrieve and process data from various sources, including PDFs and websites utilizing Python and RPA tools

- **NAAMII** — Jwagal, Lalitpur
  Mobile Application Developer Internship — *May 2023 - July 2023*
  - **PesticidePad Application Development**: Developed a computer vision-based mobile application, PesticidePad, to assist farmers in identifying and managing crop pests. Integrated Firebase into the web application for real-time database management, user authentication, and cloud storage.

- **Smart Farm lab** — Thapathali Campus
  President, Software Team Leader — *Jan 2023 - August 2023*
  - **Research in Application of IoT in Agriculture**: Led a team in conducting extensive research on the application of IoT in agriculture, exploring various hardware components such as sensors, microcontrollers, and wireless communication modules, as well as software solutions for data analysis and automation.

PROJECTS

- **Trek Pal Nepal Website**
  - Developed a trekking platform helping tourists discover 30+ destinations in Nepal, with booking and admin features.
  - Integrated the PACO payment system for easier direct bank Payment for Customers
  - Deployed the website by containerizing the frontend and backend with **Docker** and serving it efficiently through **Nginx**. Website

- **Smart Dustbin with Garbage Classfication Using ESP32Cam**
  - Developed an intelligent dustbin system integrated with **ESP32Cam** for real-time garbage classification and Segregation.
  - Employed **Tiny ML** to optimize and deploy machine learning models on the resource-constrained ESP32Cam.

- **Continual Monument Detection**
  - Applied **knowledge distillation** techniques to transfer knowledge from old model to new model with added class for **Continual Learning**.
  - Implemented a **modified architecture for meta-learning**, integrating **warp layers** into **Faster R-CNN** to enhance model adaptability and performance. Code   Demo

- **Monument Lens**
  - Developed **Monument Lens**, a mobile application for monument detection and information retrieval, utilizing the **MobileNetV2 SSD** model to achieve efficient object detection on mobile devices.
  - Implemented features to recognize and detect various monuments, providing users with detailed descriptions and historical context.
  - Demonstrated the application's effectiveness in real-world scenarios, offering users an engaging and informative experience when exploring historical sites. Code   Demo

- **Fit-Fusion: AI powered fitness solution**
  - Used technologies are: HTML, CSS, JavaScript, Python, Django, TensorFlow, Azure, **Machine Learning**, and **Pose Detection**.
  - The app offers expert guidance, live detection of correct exercise posture, and real-time repetition counting. Code   Demo

TRAINING/CERTIFICATIONS

- **Deep Learning Specialization**: Coursera, 2023   View Certificate
- **Google IT Automation with Python**: Coursera, 2020   View Certificate
- **Python for Everybody**: Coursera, 2020   View Certificate
- **Google IT Support**: Coursera, 2023   View Certificate
- **Building GenAI Applications with MongoDB**: MongoDB, 2025   View Badge