Himanshu Kukreja *Software Engineer*

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PROFESSIONAL EXPERIENCE

Software Development Engineer 1, *Ikarus 3D* Jul 2023 – Oct 2023 | Chandigarh, India

- **Led** the complete feature design and development on **3 business critical applications** - Carts and Orders, Authentication system and FDM Slicer
- **Advanced** the authentication system by adding **device ID tracking** for logged-in users with new sign-in notifications, and implemented security features like password recovery and email change
- Initiated and successfully **developed the first CI/CD pipelines** for business applications, resulting in faster deployments, enhanced code integrity, and reduced build failures and integration issues
- Piloted the migration of online FDM slicer from **AWS ECS, EFS** to **GCP Cloud Run**, resolving runtime vertical scalability scenarios and cutting costs by **90%**
- **Collaborated** with **Dr. Sahil Sharma** on 3D generative AI research, formulating methods to transform text and 2D images into 3D models using NERF, BLIP, Dream Fusion, **achieving 48% accuracy** within just 30 days of research.
- **Mentored 3 interns at Ikarus**, guiding their onboarding and integration into projects, fostered a collaborative, productive and high performing team environment
- **Headed** the automation of the company's HRMS, developed seamless biometric hardware integration via **APIs and webhooks**, saved **132 hours yearly** in HR operations and reduced chances of human errors

Software Developer Associate, *Ikarus 3D* Jan 2023 – Jun 2023 | Chandigarh, India

- **Significantly contributed** to the launch of *IkarusNest*, by leading the development of key backend microservices such as authentication, carts, orders and slicer
- **Streamlined** an **authentication system** supporting email/password and social logins, integrating JWT session management, achieving a **30% decrease** in login time
- **Improved** system efficiency by implementing **JWT header-based** microservice authentication and a **caching mechanism** for REST API calls, reducing API latency by **50%**
- **Forged** an authorization system with RESTful APIs for managing **roles and permissions** on the Nest platform, successfully integrating with the UI to secure all 7+ backend services, enhancing platform security and access control
- **Oversaw** infrastructure management, **deploying 7+** backend microservices and UI frontends using React, Next.js, Python-FastAPI, and more, while leading secure deployment strategies to bolster system integrity
- **Integrated Liquibase** with the authentication MySQL database for streamlined database migration management, reducing manual schema changes time by **20%**
- **Conducted three** Proof of Concepts (POCs) on **GRPC**, exploring the transition of microservices from REST to GRPC to assess potential efficiency gains

SKILLS

- **Technical Skills:** Python, C++, SQL, HTML, JavaScript, Bash, Go, FastAPI, Flask, Django, NodeJs, MongoDB, Nginx, Git, Linux, Docker, CI/CD, Terraform, Ansible, AWS, GCP
- **Soft Skills:** Resilience, Teamwork, Leadership
- **Languages:** English, Hindi, Punjabi

EDUCATION

Bachelor's of Engineering, *Thapar Institute of Engineering and Technology* Aug 2019 – Jul 2023 | Patiala, India
Computer Science; CGPA 9.04/10

PROJECTS

LogIngestor Nov 2023

- **Engineered** and implemented a scalable Log Ingestion System using **FastAPI, RabbitMQ, MongoDB, and Elasticsearch** for efficient log processing.
- **Dockerized** the application and deployed using AWS ECS and ECR; integrated **JWT authentication, asyncio concurrency, and rate limiting** for robust API management.

AI Powered Smart Glasses Oct 2022 – Dec 2022

- Teamed up with 4 others to create AI-powered smart glasses for the visually impaired, using **NodeMCU ESP8266** for hardware and **Python with TensorFlow** for software
- Equipped the glasses with **face recognition, image captioning, currency detection, and traffic/object detection,** greatly improving daily life for blind individuals

SmartAgri Solutions Mar 2022

- Created an **agricultural recommendation system** using a **Random Forest classifier with accuracy of 96%** for crop selection and predictive analytics for fertilizer type determination based on soil conditions, utilizing **python, flask and GCP**
- Enabled **real-time plant disease identificatio**n with **TensorFlow** deep learning models **(accuracy upto 80%)**

COURSES

Using Data Bases With Python, *University of Michigan* Sep 2022 – Dec 2022

Web Applications Technologies and Django, *University of Michigan* May 2020 – Jul 2020

AWARDS AND ACHIEVEMENTS

Secured third place in the Web Set Go Hackathon at Thapar University.
Received the Inspire Award at the State Level Exhibition and Project Competition, Chandigarh University.
Achieved 10th rank in Punjab state Matriculation Exams among 3.3 lakh students.