EHU SHUBHAM KISHORE SHAW

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Biomedical Engineer with 2+ years of DevOps experience, currently pursuing an M.S. in Computer Science to promote medical device production and prosthetic development. Combines hands-on medical device experience with current software engineering approaches to improve orthosis and prosthesis production and streamline medical device development workflows.

EDUCATION

- Master of Science, Computer Science, Worcester Polytechnic Institute, Worcester, MA | Aug 2024 - May 2026
  - Coursework: Big-Data Management, Machine Learning, Knowledge discovery and data mining, Algorithms, NLP, Mobile and ubiquitous.
- Bachelor of Engineering, Biomedical Engineering, Dwarkadas Sanghvi College of Engineering | Aug 2019 - May 2022
  - Coursework: Medical Imaging I & II, Biomedical Monitoring Equipment, Life Saving and Surgical Equipment, Diagnostic and Therapeutic Instruments, Digital Image Processing, Healthcare Database Management, Biomaterials, Prosthetics and Orthotics, Nuclear Medicine, Biomedical Microsystems, Basics of human physiology.

SKILLS

- **Biomedical** : Prosthetics/Orthotics Design | Medical Device Maintenance (ICU/OR) | Biomaterials | MEMS/Microsystems | medical IoT.
- **Programming**: Python, C++, JavaScript, REST APIs, Bash/Linux
- **DevOps**: Jenkins, Docker, Kubernetes, AWS, GCP, Git Actions, MongoDB, ELK Stack.
- **Tools** : 3D printing | ANSYS | Fusion360 | AutoCad | Maya | Tinkercad.

PROFESSIONAL EXPERIENCE

Biomedical Engineering Intern | BSES MG Hospital, Mumbai | *Jan 2020 – Feb 2020*

- Calibrated laser systems, robotic surgical equipment, and cell culture monitoring equipment per ISO 13485 standards
- Tracked medical device inventory & schedule maintenance with vendors

Biomedical Engineering Intern | Kokilaben Dhirubhai Ambani Hospital, Mumbai | *June 2021 – July 2021*

- Led maintenance of critical ICU/OR equipment (ventilators, X-ray machines, ECG systems).
- performed real-time troubleshooting of surgical robots during procedures
- implemented predictive maintenance protocols that reduced device downtime
- Collaborated with surgical teams on prosthetics optimization .

DevOps Engineer, Edelweiss, Mumbai, India , *June 2022 - Aug 2024*

- Implemented enterprise CI/CD pipelines with Jenkins, reducing deployment times by 90%.
- Built automated infrastructure using Python and Ansible, reducing deployment time from 4 hours to 1 minute.
- Deployed Docker/Kubernetes containerization solutions and multiple ELK stacks for efficient workload scaling.
- Automated MongoDB and Kafka cluster setup using Bash/Ansible, reducing setup time by 80%.
- Developed custom ELK stack with Python logging agent for real-time monitoring and analytics.
- Automated Java artifact deployment with Jira integration, achieving zero-downtime deployments.
- Created configurable data pipeline processing financial instruments daily with 99.9% accuracy, enabling real-time trading decisions.

PROJECTS

- **Medical Risk Assessment System (**Diabetes Prediction) | 2022.
  - Created machine learning system for early diabetes risk prediction based on patient health data
  - Utilized Python, Decision Trees, Random Forest, and Flask for web interface, integrating lab reports and vital signs with HIPAA-compliant data handling and displayed over Grafana.
- **Bionic Leg Prosthetic Project** | 2020.
  - Designed adaptive prosthetic control system for improved mobility and gait stability for a dog.
  - Implemented using Python, Arduino, IMU sensors, and machine learning algorithms for real-time joint angle prediction and feedback control.
- **Medical IoT Vulnerability Scanner** | *2021*
  - Developed security assessment tool for hospital networks to identify vulnerabilities in medical devices like MRI machines and infusion pumps
  - Implemented using Python, N-map, React, and CVE databases with automated PDF reporting, reducing audit time by 35% while meeting HIPAA requirements