DIP CHAKRABORTY

Software Engineer

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Backend Architecture · AI Integration · Enterprise Systems · IoT Data Pipelines · Technical Leadership

Software Engineer with 4+ years building AI-driven, enterprise-scale systems and leading cross-functional teams to deliver high-impact products for global clients.

PROFESSIONAL EXPERIENCE

Software Engineer
Preneur Lab Digital

📅 January 2023 – Present   📍 Hybrid

- Built an end-to-end AI customer support platform with RAG search, voice/chat automation, and commerce workflows, handling **10k+ users/day** and cutting human support effort by **90%**
- Delivered an automated payroll system with device integration and compliance reporting, processing **5k+ employees/month**, reducing manual HR overhead by 15 hours per month.
- Developed a scalable multi-tenant automation platform with workflow orchestration and RBAC, enabling SMEs to reduce administrative overhead by **40%+**
- Implemented cloud deployment and release pipelines on GCP using Docker, monitoring, and rollback controls, maintaining **99.9% production uptime**

Software Engineer
AIMS Lab

📅 August 2021 – August 2022   📍 Dhaka

- Built API middleware connecting external services with a central AI controller for humanoid robots, enabling real-time perception, decision-making, and task execution
- Developed robotic arm systems, simulation tools, and C++/ROS prototypes, while maintaining HMI and control software to improve system stability and testing efficiency

TOP PROJECTS

IoT Powered Access Control Solution

- Built an RFID-based access and identity platform with real-time device sync, supporting **5000+ daily users** across enterprise campuses
- Implemented secure data pipelines and digital wallet automation, eliminating manual reconciliation and reducing operational costs by **40%**
- Developed centralized analytics and predictive dashboards to optimize workforce utilization and facility operations

AI Powered Customer Support Agent

- Implemented RAG-based knowledge retrieval over **100k+ documents**, auto-resolving **65%+** queries and reducing repeat requests by **50%**
- Built voice, video, and chatbot automation handling **10k+ interactions/day**, enabling self-service workflows and reducing handling time from **6 min to <2 min**
- Developed sentiment-aware escalation and recommendation engines, cutting human support workload by **90%** and improving customer satisfaction by **30%+**

RESEARCH PROJECT

Autonomous Navigation for Mars Rover

- Co-led a cross-functional robotics team to design and qualify for the **World Final**, managing project budgets, recruitment, escalation, supply chain and technical reviews.
- Designed and implemented a GPS-denied autonomous navigation system using 3D mapping, visual odometry, and ROS-based planners in C++, achieving **95%+ waypoint accuracy** in field trials

TOP ACHIEVEMENT

- NASA Cansat Competition'24: Finalist
- University Rover Challenge'22: Finalist
- Google Hashcode'19: Regional Final

ACADEMICS

BSc, CSE
United International University

📅 October 2017 – 2022

VOLUNTEERING

UIU Robotics
President

📅 2020 – 2022   📍 Dhaka, Bangladesh

- Led a **100+ member** robotics team, building technical training programs and mentoring project leads, improving competition performance by **30%+**
- Managed national competitions and major projects with **5M+ BDT** budgets, overseeing technical decisions and institutional reporting

RECOMMENDATIONS

Akib Zaman
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💼 PhD Researcher, MIT

Ex-Project Director, UIU Mars Rover