

# Suujay Dhhoka

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**Summary** — Master's ECE student at Rutgers specializing in AI/ML, cloud-native systems and robotics. Proactive learner and creative problem-solver who enjoys building scalable, impact-driven solutions and collaborating across teams to turn complex ideas into reliable, deployable products.

## Skills

**Machine Learning & AI:** Model training and fine-tuning (LoRA/PEFT), Deep Learning, Lightweight CNNs, LLMs, OCR, Computer Vision, Reinforcement Learning, Anomaly Detection, Defect Classification, Retrieval-Augmented Generation (RAG), LangChain, Closed-loop Process Control, PyTorch, TensorFlow, scikit-learn, OpenCV, GStreamer, AI Ethics.

**Programming:** Python, Java, C++, SQL, Bash, JavaScript, MATLAB, React.js, Verilog, LaTeX, FastAPI, Streamlit, Jupyter.

**Tools:** Docker, Kubernetes, Spark, Pandas, NumPy, PyCharm, Snowflake, AWS, Azure, Salesforce, Industrial IoT Systems, Data Pipelines, Git, FastAPI, Verilog Simulators, Edge-Cloud Integration, Cloud Security and Data Management.

## Education

### Rutgers University

M.S. in Electrical and Computer Engineering, Machine Learning & AI, GPA: 3.60

Jan 2024 – May 2026

### Vishwakarma Institute of Information Technology

B.Tech in Electronics and Telecommunication Engineering, GPA: 3.50

Aug 2019 – May 2023

## Work Experience

### Rutgers University

Teaching Assistant – Machine Vision, Cloud Computing & Big data, Computer Architecture, Digital Signal Processing

Jan 2024 – Present

- **Mentored 550+ students** across multiple technical courses, **improving academic performance by 30%** through interactive learning and practical workshops.
- Guided students in developing machine learning and computer vision projects utilizing industry-standard frameworks and tools such as **OpenCV, PyTorch, TensorFlow**, and cloud platforms like **AWS and Azure**.

### IBN Technologies Ltd

Cloud Intern – Azure Cloud Services, Data Pipelines, DevOps, Security, Internal Tech Support

Jul 2022 – Dec 2023

- Built cloud-native applications and data pipelines using **Azure** and **Snowflake**, enabling scalable financial workflows.
- Automated IT service delivery processes using scripting and DevOps tools, improving deployment speed and reliability.
- Deployed containerized ML inference services on **Azure Kubernetes Service (AKS)**, enabling real-time edge-cloud analytics with **95% uptime** for production workloads.

## School Projects

### Vision-Guided Hybrid Force-Position Control (TEDSR Scrubbing Robot)

Sep 2025 - Present

- Led vision-guided control system development for elastic tendon-driven scrubbing robot using ROS, OpenCV and Pytorch, **reducing missed stains by 40%** and earning Rutgers ECE innovation recognition.
- Integrated real-time force feedback with YOLOv8 object detection, achieving precise surface scrubbing while maintaining **95% path accuracy** on irregular surfaces.

### Fine-Tuned LLM Sentiment Classifier

May 2025

- Fine-tuned BERT on **100k+** reviews, raising sentiment classification **F1 score from 0.82 to 0.91**; deployed FastAPI microservice handling **200+ requests/second** with sub-50ms latency, contributing to an award-winning project.
- Applied PEFT/LoRA optimization reducing model size by **75%** while preserving production-grade inference speed.
- Integrated RAG with domain-specific knowledge base, enabling context-aware sentiment analysis for nuanced customer feedback classification with **15% accuracy improvement** on ambiguous cases.

### Socially Cognizant Campus Guide Robot

Dec 2024

- Built ROS-based navigation and perception stack with **SLAM** and **YOLOv8**, increasing student engagement by **30%** and minimizing human intervention by **90%**, earning praise from faculty for advancing campus robotics initiatives.
- Developed multi-modal dialogue system integrating speech recognition and natural language processing, enabling context-aware responses with **87% user satisfaction**.

## Certifications

### Professional Machine Learning Engineer (Google Cloud) G

Feb 2026

### AWS Certified Machine Learning - Specialty

Feb 2026

### Socially Cognizant Roboticist

Dec 2025