Shivam Mishra

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EDUCATION

Stony Brook University — Stony Brook, NY
Pursuing Master's in Computer Science — **August 2024 – May 2026**

KJ Somaiya College of Engineering — Mumbai, India
BTech in Computer Engineering | 9.06/10 — **August 2017 - May 2021**

WORK EXPERIENCE

Stony Brook University — Stony Brook, NY
Teaching Assistant — **January 2025 – Present**

- Facilitated Prof. Kevin McDonnell in the delivery of CSE 101: Computer Science Principles, Spring 2025. Supporting students with course material, assignments, and lab exercises.
- Delivered feedback and guidance during office hours, helping students grasp foundational programming concepts.

Barclays Bank — Pune, India
Automation Developer — **August 2021 – August 2024**

- Developed an Appian application that automated the transformation of incoming Outlook emails into actionable tasks, reducing task creation and allocation time by 85% and enhancing efficiency. Integrated Graph API and Appian, leading to a 45% reduction in response time for customer inquiries.
- Executed a Round Robin system for equitable task distribution and built a scalable database for real-time tracking of task.
- Designed a dashboard for real-time reporting, managing 400+ monthly email-generated tasks per team.
- Revamped the Service Outsourcing Request Approval Process with an intuitive Appian application, reducing case turnaround time by 40% and manual effort by 75%. Managed request approvals across 9 groups using Appian Groups Management.
- Automated a total of 6 Risk Assessment Reports from Consumer, Wholesale and Markets areas using Blue Prism processes and objects, reducing manual effort, and cutting costs equivalent to 14 full-time employees (FTEs).
- Actively learned and embodied the RISES values—Respect, Integrity, Service, Excellence, and Sustainability—in work and interactions.

ACADEMIC PROJECTS

Reliability of Student Feedback for Ranking University Teaching Quality |Data Science — **November 2024 – December 2024**

- Formulated a university ranking metric based on teaching quality by leveraging sentiment analysis and professor ratings from Rate My Professors, enhancing transparency in academic evaluations.
- Scraped 10,000+ professor reviews from 38 universities using GraphQL, cleaned 100+ inconsistent entries, and conducted exploratory data analysis. Applied sentiment analysis with TextBlob, creating a composite ranking system with a 0.71 correlation between sentiment scores and ratings, and performed validation against prestige rankings.

Gesture Controlled Presentation| Computer Vision — **November 2024 – December 2024**

- Created a gesture-based presentation system that enables users to navigate slides, highlight and annotate using intuitive hand gestures that are captured using simple webcam.
- Achieved over 98% accuracy under diverse lighting conditions through extensive testing under controlled environments.

Shakespeare Poetry Generator| Natural Language Processing — **September 2024 – November 2024**

- Collected and preprocessed a 100,000+ word dataset of Shakespeare's works, tokenized the text, and created over 50,000 sequences for training. Applied character-level tokenization to improve model efficiency and accuracy.
- Built an LSTM-based RNN architecture using PyTorch, achieving a training accuracy of 87%. Optimized the model using Adam optimizer and Cross-Entropy loss to reduce the loss by 75% over 50 epochs.
- Generated over 1,000 lines of Shakespearean-style text with perplexity of 25, demonstrating the model's ability to produce coherent and contextually relevant outputs

Autonomous Car Prototype | IoT, Computer Vision — **August 2020 – May 2021**

- Led a team of 4 to assemble a prototype of a self-driving car using Raspberry Pi, Arduino Uno, and Pi Camera, achieving a 95% accuracy in lane detection, and executing complex maneuvers like U-turns, obstacle avoidance, and self-parking.
- Implemented image processing algorithms using Hough transform, OpenCV and YOLO, to detect lanes and obstacles in real-time. Added self-parking and obstacle detection features with LiDAR sensors, achieving a 90% success rate.

TECHNICAL SKILLS

Programming Languages & Frameworks: Python, C, Java, PyTorch, Pandas, NumPy, Matplotlib, scikit-learn, seaborn
Database Management: MySQL, PostgreSQL, Oracle SQL, MongoDB
Web Technology: HTML, CSS, JavaScript, Node.js, jQuery, Ajax, JSON, React.js, Express.js
Tools & Software: Git, Github, Amazon AWS, Appian
Computer Vision/ IoT: OpenCV, Raspberry Pi, Arduino Uno, LiDAR sensor, Ultrasonic sensor, Pi Camera