

# SPANDAN MAHESH PATIL

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## EDUCATION

**University of Southern California** Los Angeles, CA  
**Master's of Science | Major - Computer Science** August 2024-May 2026

- GPA : 3.82 / 4.0
- Coursework: Analysis of Algorithms, Database Management Systems, Machine Learning, Natural Language Processing

**Vidyalankar Institute of Technology** Mumbai, India  
**Bachelor of Engineering | Major - Information Technology** August 2018-May 2022

- CGPA : 9.78/10 with Distinction
- Relevant Coursework: Advance Data Structures and Algorithms, Advance Data Management, Big Data Analytics

## EXPERIENCE

**Tata Consultancy Services** Mumbai, India  
**Systems Engineer - Financial Services** July 2022-July 2024

- Spearheaded banking platform migration to micro-services with REST APIs and constructed a blueprint separating core functions from client-specific requirements, boosting scalability 40%, and minimizing customization efforts up to 25%
- Collaborated with cross-functional teams for product integration and proactively structured onboarding training for new team members, reducing integration issues 10%, and enhancing overall team efficiency 30%.

**Tata Consultancy Services** Mumbai, India  
**Software Engineer Intern - Financial Services** March 2022-June 2022

- Prototyped a Node.js-based Payment Gateway integrating PSD2 open-banking APIs from ING and Deutsche Bank, resulting in a 15% increase in client acquisition success rate

**Gaia Smart Cities** Mumbai, India  
**Software Engineer Intern** April 2020-July 2020 & December 2019-January 2020

- Engineered on a speech recognition neural network, improving accent accuracy 15% and reducing word error rate 5.8% for offline smart device control, also developed a cross-platform BLE-based system monitoring 20+ cold storages, elevating tracking efficiency 35% and cutting spoilage rate by 25%.

## PROJECTS

**Diabetic Retinopathy (DR) Stages Detection** February 2025-August 2025

- Devised a deep learning pipeline detecting diabetic retinopathy from retinal fundus images, achieving 82% accuracy using CNNs with transfer learning (ResNet, DenseNet, EfficientNet). Pipeline included CLAHE and Enlighten GAN-based preprocessing, data augmentation, and multi-class DR severity classification on a dataset of 10K images

**Multi-Class Waste Image Classification Using Transfer Learning** April 2025

- Built a classifier for nine waste categories using pre-trained CNNs (ResNet, EfficientNet, VGG16) with data augmentation, frozen feature layers, and fine-tuned final layers, achieving robust multi-metric evaluation (F1, precision, recall, AUC)

**FLIP (AI-Powered E-Book Analysis and Assessment Tool)** July 2021-April 2022

- Architected a web-based interactive reading platform using ReactJS, Node.js, Python, and MongoDB Atlas, enabling e-book uploads with AI-generated page summaries and assessments. Implemented NLP Transformers for summarization and question generation, with REST APIs powering seamless frontend-backend interaction

## PUBLICATIONS

- Authored and published the paper "State-of-the-Art Approach to e-Learning with Cutting Edge NLP Transformers: Implementing Text Summarization, Question and Distractor Generation, Question Answering" in International Journal of Advanced Computer Science and Applications (IJACSA), Volume 13 Issue 1, 2022, ISSN: 2156-5570

## SKILLS & CERTIFICATIONS

- Technologies: NLP, AI/ML, Data Analytics, Android & IOS, DBMS, Git, Jenkins, Docker, Kubernetes, Google Looker Studio
- Programming Languages: Python, JavaScript, Swift, Java, PHP, HTML, CSS, and C++
- Soft Skills: Teamwork, Leadership, Problem-Solving, Time Management, Conflict Resolution, Adaptability, Customer Service
- CS50 – Introduction to Artificial Intelligence with Python & PH125.8x – Data Science: Machine Learning from Harvard by edX
- DL0120EN – Deep Learning with TensorFlow from IBM & CS198.2x – Blockchain Technology from BerkeleyX by edX