

SHIVANG NITINKUMAR PATEL

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EDUCATION

North Carolina State University, Raleigh, USA

Jan 2025 - Dec 2026

Master of Computer Science

Relevant Coursework: Software Engineering, Neural Networks, Object-Oriented Design and Development

Nirma University, Ahmedabad, India

Oct 2020 - May 2024

Bachelor of Technology, Computer Science and Engineering

TECHNICAL SKILLS

- **Programming & Frameworks:** Python, JavaScript, C/C++, Java, Ruby, Flask, Django, Express.js, Node.js, React.js, CSS
- **Software Development & Database:** Git, REST APIs, Agile, MongoDB, MySQL, PostgreSQL, DynamoDB
- **Cloud & DevOps:** AWS, Google Cloud, Google Firebase
- **Data Engineering & Science:** Machine Learning, Deep Learning, TensorFlow, Pandas, SAS, Keras, PyTorch, NumPy
- **Other Technologies:** Product Management, Computer Vision, Hadoop, Blockchain Technology

EXPERIENCE

Software Development Intern | D360 Technologies Inc

Jan. 2024 - May 2024

- Engineered an interactive frontend Dashboard Viewer that enabled clients to effortlessly access diamond analytics, leading to a more streamlined data manipulation and enhanced user satisfaction across 50+ client accounts
- Implemented advanced client verification processes leading to a secure environment; reduced potential data breaches by 30%, enhancing trust among certified clients while safeguarding sensitive diamond analytics
- Designed and enforced client-specific data privacy controls, delivering tailored data views that met individual client needs while safeguarding confidential information

Software Development Intern | D360 Technologies Inc

June. 2023 - July 2023

- Formulated an efficient search query feature that fetched detailed diamond information from a repository of over 1.1 million records, enabling fast and accurate data retrieval based on user input
- Integrated Google Authentication to ensure secure access, restricting data usage exclusively to authenticated users and safeguarding sensitive diamond information
- Optimized the search functionality to improve query performance, enhancing user experience and enabling seamless navigation through an extensive diamond database

PROJECTS

Automated Insulin Delivery using Deep Learning Techniques

July 2023 - Dec 2023

- Created a robust predictive model using Bi-Directional LSTM to forecast blood glucose levels at precise intervals (5, 10, 15, 25, and 30 minutes) for Type-1 diabetes patients, achieving exceptional accuracy and performance
- Leveraged two months of continuous glucose monitoring data from 12 Type-1 diabetes patients, sourced from Ohio State University, to significantly enhance model precision by 20
- Provided actionable insights by optimizing the model for use in automated insulin delivery systems, contributing to potential advancements in diabetes management technology

Malicious URL Detection Using Natural Language Processing and Deep Learning

Jan 2023 - April 2023

- Developed a machine learning-based URL classification system utilizing Support Vector Machines (SVM) and Artificial Neural Networks (ANN), achieving 95% accuracy in detecting phishing, malware, and spam-related URLs from a dataset of 6,000 URLs with over 80 features
- Engineered a feature extraction pipeline incorporating NLP techniques, such as GloVe embeddings, and optimized feature selection using Principal Component Analysis (PCA) to enhance model efficiency and reduce computation time while maintaining classification accuracy
- Implemented a blockchain-based security layer for decentralized storage of detected malicious URLs, enabling tamper-proof logging and real-time threat intelligence sharing through smart contracts, enhancing security in web environments

DNA Methylation Prediction in DNA sequence using CNN

Aug 2022 - Nov 2022

- Structured a Convolutional Neural Network (CNN) with dropout to detect DNA methylation, optimizing the model to process 2000-character long DNA sequences efficiently
- Achieved 93% accuracy by converting DNA sequences into matrices for training, significantly reducing model training time and enhancing predictive performance

PUBLICATIONS

CONFERENCE PROCEEDINGS WITH JOURNAL PUBLICATION

- Yogi Patel, **Shivang Patel**, Rajesh Gupta, Mohammad S. Obaidat, Riya Kakkar, Nilesh Kumar Jadav, Sudeep Tanwar, "Blockchain and AI-based Engine Fault Detection Scheme for Autonomous Vehicles"

AWARDS

Secured First Place in the MINEd Hackathon, jointly organized by Nirma University and the State University of New York, Binghamton. Developed an innovative solution for querying diamond inventory through chatbots, a project provided by D360 Technologies Inc.