Smit Patel

smitnpatel.01@gmail.com | +1 581-349-3131 | Ontario, Canada | [Website](#) | [Linked In](#) | [Scholar](#)

PROFESSIONAL SUMMARY

- AI and Data Engineer working for 3+ years in machine learning, cloud technologies, and software development. Proven track record in delivering innovative solutions at Nokia and the National Research Council Canada (NRC). Published researcher with a Master's degree in AI and expertise in software engineering and data science.

TECHNICAL SKILLS

- ➔ **Programming Languages:** Python, C++, JavaScript, Java, SQL
- ➔ **Core Skills:**
  - ➢ **Software Stack:** Software Development, Data Structures, Algorithms, Object-Oriented Programming (OOPs), Operating Systems, Problem Solving, Complexity Analysis, Relational Database
  - ➢ **AI and Data:** Artificial Intelligence, Generative AI, Large Language Models (LLMs), Data Science, Data Analytics, Natural Language Processing (NLP), Extract, Transform & Load (ETL), Data Mining, Data Engineering, Data Warehousing, Statistical Analysis, Deep Learning, Research & Development
- ➔ **Database:** MySQL, Oracle, MongoDB, Neo4j, Cassandra, MariaDB
- ➔ **Machine Learning Stack:** Pandas, NumPy, Seaborn, Matplotlib, Scikit-learn, Keras, TensorFlow, PyTorch, NLTK, OpenCV
- ➔ **Reporting Tools:** PowerBI, Tableau, Microsoft Excel
- ➔ **Big Data Stack:** Hadoop, Spark, Sqoop, Splunk
- ➔ **Cloud:** Azure, GCP, AWS
- ➔ **ETL:** Talend, Informatica, Azure Data Factory, AWS Glue, SnapLogic
- ➔ **Tools and Tech.:** Airflow, MLflow, Kafka, Docker, Git, GitHub, Linux, NoSQL, CI/CD, React, Angular, Blockchain, Jira, Bash, Microsoft Power Automate, Microsoft Power Apps, Microsoft Office, Box, Slack, SharePoint Server

EDUCATION

Master of Engineering: Computer Engineering with a Concentration in Applied Artificial Intelligence - (GPA: 9.34/10)
University of Ottawa - Ontario, Canada
Bachelor of Engineering: Information Technology - (GPA: 9.62/10)
Gujarat Technological University - Gujarat, India

PROFESSIONAL EXPERIENCE

AI, Cloud, and Automation Engineer (Contract)

Nokia, Canada   September 2023 - April 2024

- Developed an ML Engine for predicting network outages for Nokia's telecom clients across NA, APAC, and EMEA with 78% accuracy at specific locations.
- Integrated three live status and alarm monitoring software for WLAN devices across 550+ Nokia offices into a centralized dashboard, enhancing 65% operational efficiency.
- Contributed to 10+ cloud and automation initiatives in collaboration with Nokia's Dallas, Helsinki, Espoo, Shanghai, and Bangalore offices.

Data Engineer (COOP)

University of Ottawa   March 2023 - September 2023
Collaborator: National Research Council Canada (NRC)

- Collaborated with cross-functional, cross-territory teams from the National Research Council Canada, Hannover Centre of Germany, the University of Ottawa, and Max-Planck Club on a project to develop an alternative to fiber optics for transmitting high-speed data to Canadian northern territories (Yukon, Northwest, Nunavut) economically.
- Trained deep neural networks on the data to create surrogate models that replaced the simulation software.
- Shared insights effectively with interactive visualizations, using Power BI dashboards to help the team identify trends, gain insights from experiments, and make informed decisions.

Data Analyst (Full-time)

WeHear Innovations Private Limited   April 2021 - August 2022
- Created speaker recognition, audio dictation, and environmental classification systems using MFCC, RNN, and NLP with Google Translate API and deployed them on hearing aid devices, manufactured by this Start-up, using a data pipeline through Android apps.
- Analyzed consumer data collected with Meta Business Suite to optimize marketing campaigns of WeHear on Facebook & Instagram, resulting in a 150% higher conversion rate.
- Developed a novel spectroscopical device, 'WeSense', for adulteration detection in oil, milk, and medicines that uses multi-class classification models on the dataset, prepared from scratch using spectroscopy, and achieved 98% accuracy; also integrated this system with a mobile application.
- Extracted 18 basic features using the properties of the electromagnetic spectrum, such as reflection rate, for a new non-destructive testing method based on ML to replace costly and time-consuming High-Performance Liquid Chromatography, a destructive adulteration testing method in analytical chemistry.

AI Research Engineer (Full-time)

Institute of Technology, Nirma University   May 2020 - December 2020
- Worked on a series of research projects in the domain of blockchain and autonomous vehicles by collaborating with international authors and universities, namely, the University of Kentucky and Durban University, and designed a viable solution by utilizing AI and its subdomains and drafted 3 research papers for international journals.

PUBLICATIONS

Deep Learning-Based Cryptocurrency Price Prediction Scheme with Inter-Dependent Relations.
Published: IEEE Access Journal   [View Publication]
Intelligent System to Detect Software Defects in Autonomous Vehicles.
Published: IEEE Transactions on Intelligent Transportation Systems Journal

PROJECTS

Cardiovascular Disease Forecasting Scheme
- Analyzed 14 features, such as cholesterol, blood pressure, and blood sugar, to predict whether the patient has cardiovascular disease (CVD) using 5 ML models with 98.83% prediction accuracy to reduce the 17.9 million deaths from CVDs yearly.

The Detection of a Malignant Tumor in the Breast
- Inspected 32 features related to the dimensionality and texture of the breast cancer tumor, found in 1 out of every 8 women, for predicting this fatal disease, and developed various classification prediction models and achieved 97.90% accuracy.

Consumer Segmentations
- Segmented E-commerce consumers from different countries into five categories based on various parameters derived from their buying behavior with multi-class classification models to optimize the decision-making process and business intelligence of companies; achieved 93% accuracy.

LANGUAGES

English - Full Professional Proficiency, **Hindi and Gujarati** - Native / Bilingual Proficiency.

INTERESTS

FinTech Law, Financial Markets, Global AI Policy.