

# Smit Patel

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## EDUCATION

**Master of Engineering:** Computer Engineering with a Concentration in Applied Artificial Intelligence

University of Ottawa - Ontario, Canada

September 2022 - April 2024

**Bachelor of Engineering:** Information Technology - (GPA: 9.62/10)

Gujarat Technological University - Gujarat, India

July 2018 - July 2022

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## TECHNICAL SKILLS

- **Programming Languages:** Python, SQL, JavaScript, Java, HTML, CSS, LaTeX, PHP
  - **Core Skills:** Artificial Intelligence, Data Science & Analytics, Software Engineering, Data structures & Algorithms, Object-Oriented Programming, Natural Language Processing (NLP), Extract, Transform & Load (ETL), Data Mining, Data Warehousing, Data Modelling, Operating Systems, Statistics, Research & Development, Deep Learning
  - **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, Kafka, Docker, Git, GitHub, Linux, NoSQL, CI/CD, React, Angular, Blockchain, Jira, Bash, Microsoft Power Automate, Microsoft Power Apps, SharePoint Server
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## PROFESSIONAL EXPERIENCE

**AI, Cloud, and Automation Engineer - COOP**

Nokia, Canada

September 2023 - Present

- 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 alarms 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.

**AI and 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 Analytics Intern**

WeHear Innovations Private Limited

January 2022 - 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.

#### **R&D Intern, Machine Learning** (WeHear)

April 2021 - September 2021

- 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 Intern**

##### **Institute of Technology, Nirma University**

May 2021 - December 2021

- 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.

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## **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.**

Under Review: IEEE Transactions on Intelligent Transportation Systems Journal

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## **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 every year.

### **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.

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## **EXTRACURRICULAR**

### **Max Planck – uOttawa Centre for Extreme and Quantum Photonics**

Member

April 2023 - Present

- Exploring the use of Artificial Intelligence in nanophotonics, nonlinear optics, imaging, and extreme light-matter interaction by collaborating with leading experimental and theoretical scientists, including the NRC-UOttawa Joint Centre for Extreme Photonics (JCEP).

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## **LANGUAGES**

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

## **INTERESTS**

FinTech Law, Financial Markets, Global AI Policy.