# VISHAL NADIG

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## PROFESSIONAL EXPERIENCE

**Data Engineer, Dataplatform, Hypersonix AI**, Bangalore, Karnataka, India **Jan. 2022 – Aug. 2022**

- Successfully orchestrated the **migration** of ingestion of customer data into **AWS Snowflake database from manual labor to automated data pipelines using ETL process.**
- Helped **launch a new service** that streamlined the onboarding, ingestion and validation of data for all our clients using ETL process **saving 8 hours** of manual labor per customer for the company. This also **cut down ingestion and data validation errors from 15%** to **1%**.
- **Led the transformation from manually writing SQL queries** to parse customer data in our databases to an internal tool that acted as a **search engine to query and transform data in our databases**.
- **Mentored and guided a group of 3 summer interns** regarding collaborative work using git and through code reviews.

**Data Engineer Intern, Dataplatfrom, Hypersonix AI**, Bangalore, Karnataka, India **Jul. 2021 – Jan. 2022**

- Created **ETL data pipelines** using Directed Acyclic Graphs(DAGs) in **Apache Airflow** for ingestion of data into Snowflake database.
- **Built a B2E tool** that could be used to parse client data from our databases without the need to write SQL queries which **saved 1 hour of manual labor on average for the company**.

**Engineering Intern, Bharat Electronics Limited (BEL)**, Bangalore, Karnataka, India **Jun. 2019 – Jul. 2019**

- Studied the generation, distribution and transmission of electric power in real time
- Worked on Programmable Logic Controllers (**PLC**) based **Supervisory Control and Data Acquisition System(SCADA)**, its operation and maintenance and prepared a case study of the PLC system implemented at the operating facility.

## TECHNICAL SKILLS AND KNOWLEDGE

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|---|---|
| **Languages:** | Python, C++, HTML, CSS, Bash |
| **Databases:** | MySQL, MSSQL, SQL, Snowflake, S3 |
| **Tools/Libraries/Technologies:** | Linux, Ubuntu, AWS, ROS2, Pycharm, Solidworks, Jupyter, VS Code, Git, GitHub, FastAPI NumPy, Pandas, Matplotlib, SymPy, Airflow, Docker, Microsoft Office, Jira |
| **Development Boards:** | Raspberry Pi, Arduino, Jetson Nano |

## PROJECTS

**Hand Gesture Controlled Turtlebot4** **Jan. 2023 – Apr 2023**

- Actively involved in a team of two to integrate various sensors and components on a turtlebot and used **ROS2** to interface between the various sensors of the robot.
- Used **Google Mediapipe** to train a **RandomForrestClassifier** model to recognize hand gestures to control the turtlebot remotely over the **ROS2** network.

**Trading Bot** **Nov. 2021 – Feb. 2022**

- Built a **trading bot** to **trade cryptocurrencies** 24/7 in Python. It uses a **MySQL** database on the backend to store encrypted user credentials.
- Used various **APIs** to pull real time data feed from **Tradingview** for all the cryptocurrencies listed on the exchange to get real time prices, indicators, candle data and historical price data and used pandas to sort and organize the data to be used by the bot.
- Made **REST API** endpoints using **FastAPI** to send commands to the trading bot remotely over the internet with the help of a **VPN**.

**Chefbot** **Nov. 2021 – Feb. 2022**

- Wrote a python program to parse thousands of cuisines from a CSV file.
- Used **FastAPI** to host a server and had various **API** endpoints to fetch the name of the dishes from the CSV file.
- Wrote several API endpoints to also fetch the recipes of the dishes and be able to download the file from the **FastAPI** endpoint.

**Autonomous Battery Swap in Drones** **Aug. 2023 – Dec. 2023**

- Modeled and designed a scissor lift mechanism and a drone landing pad using **Solidworks**.
- Designed an ejector mechanism to swap the depleted battery with a new battery.

**ADAS, BELiV Lab Arizona State University** **May. 2023 – Aug. 2023**

- Involved in the simulation team responsible for simulating the digital twin of a car to drive autonomously in CARLA using Unreal Engine.
- Completely automated the installation of the required tools such as **CARLA**, **Unreal Engine**, **ROS2 Galactic** and **Autoware** on Ubuntu 20.04 and 22.04 using bash scripts that could be used by any student working in the lab.

## EDUCATION

**Master of Science, Mechatronics, Robotics & Autonomous Systems, Arizona State University** **Aug. 2022 – May. 2024**
GPA: 3.89

**Bachelor of Engineering, Electrical and Electronics Engineering, The Oxford College of Engineering** **Aug. 2016 – Aug. 2020**
GPA 6.89