

Portfolio: <https://maxlr8.github.io/>  
GitHub: <https://github.com/maxlr8/>  
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## Professional experience

### AI Engineer

**Office of Research and Innovation Services (ORSIE), The AI Hub DC, Oshawa, CA**

**(May 2022 – Present)**

- **TxtSquad:** Deployed a highly scalable AWS lambda microservice architecture running a BedRock-LangChain-based LLM app automating medical appointment booking from patient conversations reducing 75% phone-call communication.
- **Pre-Diagnosis Medical Bot:** Implemented a FastAPI-based OLP-stack medical chatbot that dynamically conducts domain-specific pre-diagnostic assessment based on the patient chat using the RAG mechanism reducing the average patient diagnosis time by 40%.
- **Maverick:** Designed a state-of-the-art GPU-dockerized GPT4All-based LLM, integrated as an Ionic app, and deployed on an Android-based humanoid robot, triggered on name-call to adeptly respond to voice inputs, furnishing real-time geo-sensitive data like date, time, weather.
- **Pickering Chatbot:** Enhanced website functionality for Pickering Government integrating an OLP-stack helper chatbot leveraging RAG technique and web scraping to dynamically deliver up-to-date info, resulting in a 40% reduction in the need for direct physical interactions.
- **N.A.C.E Classifier:** Engineered a Flask API encompassed fine-tuned BERT-LM trained over 15K documents to perform multi-class-multi-level classification over European economic activities called NACE codes with an accuracy of 80%.
- **Text Summarizer:** Developed an end-to-end fine-tuned GPT-2 powered Text Summarizer app trained over 10 hours of meeting transcripts providing meeting summary and word-cloud on the user's Telegram account.
- **Unity ML-Agents:** Experimented on On-Policy and Off-Policy algorithms and performed hyperparameter optimisations identifying and defining 10+ optimal performance parameters for RNN-based agents in a Unity-based game called Little Learning Machines.
- **Next-Word Predictor:** Created an end-to-end Django-based GPT-2 powered next-word-predictor app that predicts the most likely occurring word while typing, with a user-specific word-usage tracking dashboard metric, login and auth features.

### Software Developer

**Accenture Private Limited, Bangalore, India**

**(Sep 2019 – Dec 2021)**

- **NBN Co.** - Associated with a team of 20+ engineers on a large-scale Australian NBN Co. project to automate and streamline their website.
- Designed automated batch classes and triggers for deployments, integrated third-party RESTful APIs and handled cross-sandbox data migrations and deployments that increased 60% workforce efficiency.
- **VMS** – Collaborated and expedited a time-critical COVID-19 project called Vaccine Management System for the N.American Govt. delivering process automation frameworks, batch processes, and data pipelines for medical data migration, integration and deployments.
- **Lash** – Worked for a large-scale US-based pharmaceutical client called AmerisourceBergen to create complex data visualisations for the data produced by the integrated AI application that augments the visuals tailored to diverse sets of required parametric configurations.
- Handled Data Extraction and Migration using Data Loaders and Workbench synchronizing Dev, Test, UAT, and Production Sandboxes.

## Projects

- An end-to-end highly scalable Python-based **Microservice Application** deployed on AWS Elastic Kubernetes Services (EKS).
- **Real-time stock-market data analysis** on AWS using Apache Kafka.
- An **Airflow workflow management pipeline** to perform ETL on Twitter using Twitter API, transform using Python and load into AWS S3.
- An OLP-stack AI Web Application trained and deployed to retrieve any information from **LangChain documentation**.
- **Sentiment Analysis** using Snowpark's Python NLP and Machine Learning Python libraries within Snowflake.

## Technical Expertise and Certifications

**Languages & OS:** [Python](#), [Shell](#), [SQL](#), [HTML](#), [CSS](#), [JavaScript](#), [Markdown](#), [Linux](#)

**Frameworks & Libs:** [LangChain](#), [PyTorch](#), [TensorFlow](#), [Pandas](#), [NumPy](#), [Django](#), [Flask](#), [NLTK](#), [OpenCV](#), [Spacy](#), [Plotly](#), [Matplotlib](#)

**Cloud & DBs:** [AWS](#), [EC2](#), [EKS](#), [Lambda](#), [Boto3](#), [S3](#), [VPC](#), [Glue](#), [BedRock](#), [IAM](#), [Azure](#), [MySQL](#), [MongoDB](#), [PostgreSQL](#), [SQLite](#)

**DevOps:** [Docker](#), [ETL](#), [Airflow](#), [Kafka](#), [PySpark](#), [Kubernetes](#), [Helm](#)

**Software & Tools:** [Tableau](#), [Git](#), [Jenkins](#), [Scrappy](#), [Jira](#), [Confluence](#), [Jenkins](#)

**Certifications:** [Deep Learning Spec.](#) | [Data Engg. Spec.](#) | [OLP Stack](#) | [AWS Training](#) | [MS Azure Training](#) | [ML with Python](#) | [Complete Python](#)

## Education

**Cloud Computing Technologies (PGDM)**, George Brown College, Toronto, ON.

**(Jan 2023 – Aug 2023)**

**Artificial Intelligence Design, Analysis & Implementation (PGDM)**, Durham College, Oshawa, ON.

**(Jan 2022 – Dec 2022)**

**Bachelor of Electronics and Communication Engineering (BTech.)**, VTU, Bangalore, IN.

**(Aug 2015 – Jul 2019)**

## Permits

**Work:** On PGWP – Validity: **Aug 2026**.

**US Visa:** On B1 / B2 – Validity: **June 2028**.