Arul Prakash Pugazhendi

AI ENGINEER: LLM AND DOCUMENT-AI PRODUCTS, BUILT AND RUN IN PRODUCTION

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PROFILE

AI engineer who builds LLM and document-AI products end to end and keeps them running: document ingestion, retrieval-augmented generation, structured extraction, web apps, payments and support. Founder of TensorHub Solutions, where I run four products of my own and build AI tools for clients. Open to full-time roles and contract work, remote across North American time zones.

SKILLS

LLM and Document AI

Retrieval-augmented generation (RAG), hybrid search (BM25 + dense embeddings), vector search (pgvector, Elasticsearch), document and PDF ingestion, structured extraction, vision-language models, prompt design, OpenAI API, Google Gemini

Machine Learning

PyTorch, transformers, scikit-learn, pandas; natural language processing, computer vision, model deployment and inference

Product Engineering

Python, TypeScript, SQL; Next.js, React, Django and DRF, Celery; PostgreSQL, Supabase; Stripe; Docker, Vercel; GitHub Actions CI, automated testing

PROFESSIONAL EXPERIENCE

TensorHub Solutions — **Edmonton, Canada**
Founder & AI Engineer — Jun 2023 – Present

- Built and run PenParse (penparse.com) as sole developer: turns photos, scans and PDFs of handwriting into editable text and flags every word it is unsure of. Product, web app, payments and support.
- Built and run ImageToMermaid (imagetomermaid.com): converts diagram screenshots into editable Mermaid code and moves diagrams between draw.io, PlantUML, SVG and Visio.
- Sole engineer for a Canadian benefits advisory firm, 2023 to 2026: built a RAG chat assistant that answers employees' questions from their own benefits booklets, and a tool that turns carrier plan documents into side-by-side comparisons across 18 benefit categories.
- Also built and run WhatIKeep (take-home pay calculators for Canada and India, English and French) and VetTechPractice (paid VTNE practice-question site with its own exam engine, payments and sign-in).

Click & Push Accessibility — **Edmonton, Canada (remote)**
Contract Developer — Jan 2024 – Jul 2025

- Upgraded the Atlas accessibility-mapping app to React Native 0.73 and Expo 50 and got the iOS and Android builds working again.
- Built indoor maps (floors, mezzanines, multiple places per building) on a PostGIS backend, migrated the platform from SQLite to Postgres, and set up Docker and nginx deploys.

Centre for Applied AI, Concordia University of Edmonton — **Edmonton, Canada**
Machine Learning and Full Stack Developer — Nov 2020 – Jul 2023

- Maiya: built an LLM-based learning assistant, designing two models for student interaction and for summarising documents and audio.
- Energy Calculator: built a three-stage pipeline combining a computer vision model, OCR, and an LLM to classify appliance types.
- Carbeeza: built an image-processing pipeline removing dealer logos and overlays from user-uploaded car images, using three convolutional models based on VGGNet19 and STRNet2.

SharpestMinds — **Toronto, Canada**
Data Science Fellow — Jun 2020 – Oct 2020

- Built a PubMed question-answering system in Python with BERT and transformers over medical research literature, reaching 87.5% top-N accuracy and 79% F1. An early retrieval-and-answer pipeline built with Haystack, Elasticsearch and Airflow.

Data Factory — **Brussels, Belgium**
Data Science Intern — Nov 2019 – Apr 2020

- Built a language model and classifier with fastai ULMFiT predicting sentiment from customer reviews at 93% precision and 92% recall.

Cognizant Technology Solutions; Deloitte India — **Chennai, India**
SAP Finance and Banking Consultant — Jun 2012 – Feb 2019

- Six years delivering enterprise finance and banking implementations for Lloyds Bank, Rabobank and the Saudi Arabian Monetary Agency, covering three implementation projects and two support engagements.

EDUCATION

Data ScienceTech Institute, *Master of Science in Data Science and Artificial Intelligence* — Mar 2019 – Apr 2020
Anna University, *Bachelor of Technology in Information Technology* — Aug 2008 – Apr 2012