

REVATHY PONNAMBALAM

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Detail-oriented professional with extensive Geographical Information Systems(GIS) experience of 6+ years using ESRI(ArcGIS 9.2), QGIS, and PostGIS environments. Highly skilled analyst with extensive knowledge in data management in a fast paced and collaborative work environment.

TECHNICAL EXPERIENCE

GIS Technician | Canada Post, Ottawa, Canada

July 2024-Present

- Manages and maintains geographic and related attribute data in AMS, and other GIS software, which reflects national coverage of Forward Sortation Areas (FSAs), municipalities, street networks, addressing, and other layers of geographic importance.
- Validates and verifies the positional location of Local Delivery Units (LDU) (Blockface, Community Mail Box (CMB) locations, Demand Point LVR's, Business and Apartment Buildings) from both Routegraph/MapInfo and geocoded LDU's currently on the AMS network reconciling discrepancies using reliable sources (e.g. Municipal GIS Website and custom Crystal Reports).
- Updates the Georoute street network according to editing standards. Resolves outstanding issues of missing postal codes and discrepancies between measured route distances. Upon completion, uploads street network into DepotSafe for Route Measurement Officer (RMO) usage.
- Prepare standard and custom maps requested by internal CPC clients. Creates both standard map products and thematic maps. Performs manipulative calculations to corporate spreadsheet data to integrate with spatial data to effectively display business spatial relationships while ensuring the information included is legible and accurate.

Data Analyst | Nanometrics, Canada

Aug 2023-Jun 2024

- Manage spatial data layers for clients Analyzed large sets of data, resulting in 20% increase in efficiency and productivity. Developed Python scripts to automate the process of setting up GIS web maps and 3D dashboard. Cut project time for data analysis by developing ETL components using Python.
- Used libraries such as GeoPandas, GDAL and GeoJSON for seismic dashboard visualizations and Deployed Docker containers on Linux servers for clients' custom portal. Created and published web layers for clients' custom portal using GIS applications.
- Produced deliverables including report and datasets for clients. QA/QC seismic events using Python applications.

Geospatial Analyst | a'xykno/Hitachi solutions, India

Oct 2015-Jul 2022

- Oversaw the planning, development, and maintenance of all geographicals maps and data for the Local Planning Authority of Tiruppur and Trichy Municipal corporation, utilizing geospatial data, digitized database and gis softwares.
- **Designed** and developed GIS-based master plans, comprehensive mobility plans, and transport demand modeling for various central/state government projects, utilizing a data-driven approach.
- **Led** JICA-funded projects, collaborating with the Hitachi team on "Vehicle Weight Estimation" and "Optimization of Public Transport" using automatic vehicle detection through stereo cameras increasing 30% revenue to the authority.
- **Employed** geospatial data analysis techniques and models to improve the accuracy of vehicle weight estimation and optimize public transport routes, demonstrating expertise in project **management**, scoping, costing, and adherence to specifications for public sector projects as the Project Manager.
- Developed and **analyzed** GIS thematic maps and **maintained** strong relationships with State/Central Government clients, regularly communicating and running meetings and workshops as needed

GIS Development Trainee | Hitachi solutions, Japan

Aug 2014-Feb 2015

- **Maintained** data accuracy/integrity in Hitachi's proprietary GIS s/w, GeoMation, by managing the **geospatial database**
- **Developed GIS/ITS prototypes** to identify crop-cultivated areas, estimate crop yield, assess crop health, and map irrigated landscapes for agricultural land in Australia.
- **Coordinated** pre-disaster planning and preparedness, prediction and early warning, and damage assessment and relief management for a GIS-based Disaster Management System/Emergency Response System for the Vietnam Government, utilizing **analytical** skills to develop GIS **prototypes** that provide decision-makers with a clear understanding of crop conditions and disaster situations.

ACADEMIC PROJECTS | UBC

Cleansat (Capstone project)

May 23 - Jun 23

- Deploying the **machine learning pipeline** to create cloud/shadow mask for the **Sentinel-2** satellite images to improve the accuracy of mineral exploration.

Rainfall Prediction 🌀

Apr 23

- Deployed the **machine learning pipeline** using **Flask API** with **Spark** instance in **AWS** to predict daily rainfall

Building Permit Explorer 🌀

Mar 23

- Built **interactive dashboards** for analyzing Building Permit of Vancouver dataset using **R** and deployed the apps on shiny

- Built interactive dashboards for analyzing children/volunteer count using Dash, python and deployed the apps on Renderer

- Built and published packages in Python and R that four functions to easily calculate four classic physics theories. This reduces 80% of a teacher's effort. Deployed these packages using CI/CD pipeline

- Containerized the machine learning pipeline that predicts cervical cancer using Random Forest Classifier

EDUCATION

Masters in Data Science, University of British Columbia, Vancouver, Canada

Sep 22-Jun 23

- Designed, deployed and containerized various machine learning projects in the coursework. Learnt and applied concepts of hypothesis testing, A/B testing and statistical modeling in the coursework

Masters of Engineering in Transportation, College of Engineering, Anna University, India

Bachelors of Engineering in Geo-informatics, College of Engineering, Anna University, India

SKILLS

Programming Languages	Python, R, Java
Databases	MySQL, MongoDB, Postgres
Data Visualization	Shiny, Dash, Matplotlib, Plotly, PowerBI, Tableau
Data Science	Machine Learning, PyTorch, LLM, Recommendation System Natural Language Processing, Experimentation and Causal Inference, A/B Testing, Hypothesis Testing, Statistical analysis, Jupyter notebook
Cloud and Big Data	Distributed systems, Hive, Spark, AWS - S3, Sagemaker, EC2, Google Cloud
Software Development	Docker, CI/CD pipeline, Flask API
Geospatial /Transportation s/w	EMME2, VISUM, VISSIM, TransCAD, QGIS, ArcGIS, ERDAS