REVATHY PONNAMBALAM

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Highly skilled Spatial Data Scientist with a strong background in GIS analysis, mapping and data management. Proficient in utilizing various software applications and tools to collect, analyze, and visualize spatial data.

TECHNICAL EXPERIENCE

Data Analyst | Nanometrics, Canada   **Aug 23-present**
- Developed Python scripts to automate the process of setting up GIS web maps and 3D dashboard, reducing the time required by 50%. Created and published web layers for clients' custom portal using GIS applications
- Used libraries such as GeoPandas, GDAL and GeoJSON for seismic dashboard visualizations and Deployed Docker containers on Linux servers for clients' custom portal
- 24/7 monitoring on seismic activity in clients' operation area and Produced deliverables including report and datasets for clients. QA/QC seismic events using Python applications

Project Manager | a'xykno/Hitachi solutions, India   **Oct 15-Jul 22**
- Developed and **analyzed** GIS thematic maps and **maintained** strong relationships with State/Central Government clients, regularly communicating and running meetings and workshops as needed
- **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 and LiDAR 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**

GIS Development Trainee | Hitachi solutions, Japan   **Aug 14-Feb 15**
- **Maintained** data accuracy/integrity in Hitachi's proprietary GIS s/w, GeoMation, by managing the **geospatial database in SDE.**
- **Developed GIS/ITS prototype**s using java to identify crop-cultivated areas, estimate crop yield, assess crop health, and map irrigated landscapes for agricultural land from the satellite imagery 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 disaster situations.

EDUCATION

Master's 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 modelling** in the coursework*

Master of Engineering in Transportation Engineering, College of Engineering, Anna University, India
Bachelor of Engineering in Geoinformatics/Geomatics, College of Engineering, Anna University, India

ACADEMIC PROJECTS | UBC

Cleansat (Capstone project with Rio Tinto mining corporation)   **May 23-Jun 23**
- Deploying the **machine learning pipeline** to perform ETL and create cloud/shadow mask for the **Sentinel-2** satellite images

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 dashboard** for analyzing Building/housing Permit of Vancouver using R and deployed the app on shiny

BhumiNGO ⬡   **Mar 23**
- Built **interactive dashboard** for analyzing children/volunteer count using **Dash, python** and deployed the apps on Renderer

EasyPhysics ⬡, **EasyPhysicsR** ⬡   **Feb 23**
- Built & **published** packages in **Python** and **R** to easily calculate four classic physics theories and deployed using **CI/CD pipeline**

Cervical Cancer Prediction ⬡   **Dec 22**
- **Containerized** the **machine learning pipeline** that predicts cervical cancer using Random Forest Classifier

SKILLS

Programming Languages	Python, R, Java
Databases	MySQL, MongoDB, SQL, PostgresSQL, Microsoft SQL Server
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
Cloud and Big Data	Distributed systems, Hive, Spark, AWS - S3, Sagemaker, EC2, Google Cloud
S/w Development/Version control	Docker, CI/CD pipeline, Flask API, Databricks, Github, Gitlab
Geospatial /Transportation s/w	QGIS, ArcGIS, ERDAS, EMME2, VISUM, VISSIM, TransCAD

EXTRA CURRICULARS

- Volunteer of DataCan, Women in Data Science community   **Feb 23-Present**