Naveen **Kannan**

RESEARCH ASSOCIATE

Cleveland, Ohio

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Data Scientist experienced with data analysis, visualization, building pipelines, automation and Data Engineering. I have a strong passion for coding, visualization and automation, and I compiled this CV with code. United States Permanent Resident.

Education

MSc in Biomedical and Health Informatics   *Cleveland, Ohio*

CASE WESTERN RESERVE UNIVERSITY   *JANUARY 2022 – AUGUST 2023*

- GPA-3.9

Bachelor of Medicine and Bachelor of Surgery   *Chennai, India*

MADRAS MEDICAL COLLEGE   *SEPTEMBER 2016 - MARCH 2020*

- GPA-4.0

Experience

Research Associate   *Cleveland, Ohio*

POPULATION HEALTH AND QUANTITATIVE HEALTH SCIENCES, SCHOOL OF MEDICINE, CASE WESTERN RESERVE UNIVERSITY   *MAY 2023 - Present*

- **Docker/Singularity Container Deployment and Documentation**
  - Developed Docker/Singularity containers for reproducible scientific pipelines, facilitating efficient workflows for colleagues.
  - Authored comprehensive documentation to ensure seamless adoption and easy troubleshooting.
  - Incorporated Mamba into the scientific workflow, reducing container build times by 300 percent.
- **Cluster Configuration and Big Data Analytics**
  - Set up, configured and maintained both VM and Raspberry Pi bare-metal servers from scratch.
  - Implemented big data analytics tools (Hadoop, Spark) along with bioinformatics tools like Hail and Glow using Ansible scripts.
- **Genomic data Analysis**
  - Collaborated with the Alzheimer's Disease Sequence Project by annotating and scoring the biological effects of 362 million structural genetic variants associated with Alzheimer's Disease.

Graduate Research Assistant   *Cleveland, Ohio*

POPULATION HEALTH AND QUANTITATIVE HEALTH SCIENCES, SCHOOL OF MEDICINE, CASE WESTERN RESERVE UNIVERSITY   *JANUARY 2023 - MAY 2023*

- Engineered Docker containers for streamlined deployment of specialized R packages and Python modules, optimizing analyses for single-cell RNA datasets.

Graduate Research Assistant   *Cleveland, Ohio*

GIS HEALTH AND HAZARDS LAB, SCHOOL OF MEDICINE, CASE WESTERN RESERVE UNIVERSITY   *MAY 2022 - DECEMBER 2022*

- **Mapping human movement patterns after a natural disaster.**
  - Developed Python scripts automating GPS coordinate extraction from GPX files of geospatial video feeds in Democratic Republic of Congo post-volcano eruption.
  - Processed and transformed data into machine-readable format, enabling streamlined map generation.
  - Applied automated scripts to parse video feeds into frames, implementing Machine Learning Algorithms for tent detection.
  - Wrote up the findings as a part of a manuscript for a peer-reviewed publication.

Technical Skills

Operating Systems

UNIX, KUBUNTU DEBIAN LINUX, FEDORA RED HAT LINUX, RASPBIAN DEBIAN LINUX, WINDOWS 11

Programming Languages

PYTHON, R, BASH, SQL

Software

HADOOP/SPARK/HIVE, JUPYTER, DOCKER, SINGULARITY, SLURM, ANSIBLE

Geospatial Analytics/Visualization

GEOPANDAS, SF (R), QGIS

Markup Languages

LaTeX, Markdown, RMarkdown

Version Control

Git

Python-based skills

PySpark for Hadoop/Spark, Tensorflow, Pytorch, pandas, scikit-learn, numpy, scipy

Bioinformatics tools

Samtools, BCFtools, HTSlib, Tabix, Plink