

Venkatesh Ramesh

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EDUCATION

MILA - QUEBEC AI INSTITUTE | RESEARCH ASSISTANT

Sept 2021 – Present | Montreal, QC

- Working with Dr. David Rolnick on applications of AI to tackle climate change.
- Projects in progress include constrained climate model downscaling and computer vision for forest monitoring.

UNIVERSITÉ DE MONTRÉAL | PHD IN COMPUTER SCIENCE

Sept 2021 - Present | Montreal, Canada

GPA: 4.225/4.3

SRM UNIVERSITY | B. TECH IN COMPUTER SCIENCE

May 2019 | Chennai, India

Percentage: 83%

EXPERIENCE

MILA - QUEBEC AI INSTITUTE | RESEARCH INTERN

March 2021 – Sept 2021 | Remote

- Co-led ClimART where we emulated radiative transfer using graph neural networks and CNNs with physics constraints.
- We also released a diverse benchmark dataset and code for easily comparing the performance of machine learning models.

HYPERVERGE | MACHINE LEARNING ENG. - 2

Dec 2018 - February 2021 | Bangalore, India

- Worked on the problem of change detection and building footprint detection using geospatial imagery.
- Wrote the training pipeline for distributed training on a compute cluster.

SILVERSPARRO | DEEP LEARNING ALGORITHMS INTERN

Jun 2018 - Jul 2018 | Gurgaon, India

- Worked on pilferage detection using CCTV footage provided by the client.
- Framed the problem as a multi-class object detection problem and made use of various architectures for object detection like Yolo v3 and Faster R-CNN.

PUBLICATIONS

- Generating physically-consistent high-resolution climate data with hard-constrained neural networks. P. Harder, Q. Yang, V. Ramesh, P. Sattigeri, A. Hernandez-Garcia, C. Watson, D. Szwarcman and D. Rolnick at Workshop on Tackling Climate Change with Machine Learning at NeurIPS 2022.
- ClimART: A Benchmark Dataset for Emulating Atmospheric Radiative Transfer in Weather and Climate Models. *S. Rühling Cachay, *V. Ramesh, J. N. S. Cole, H. Barker and D. Rolnick at Conference on Neural Information Processing Systems (NeurIPS) 2021.

SKILLS

LANGUAGES AND LIBRARIES

Languages:

- Python

Libraries:

- Keras • TensorFlow
- PyTorch • Scikit-Learn
- Numpy • Pandas

SPOKEN & WRITTEN

Native fluency:

- English • Hindi

Speaking fluency:

- Tamil