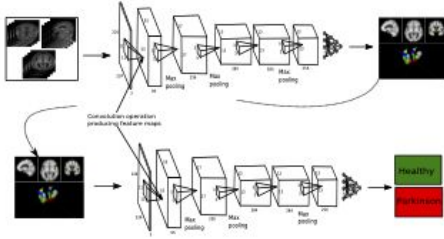




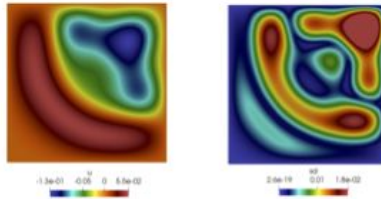
# Computational Modelling of Real World Problems Using Digital Research Infrastructure and Community Outreach

Sudhi Sharma Padillath Vasudevan  
Post-Doctoral Research Scholar,  
Carleton University,  
Ottawa, Canada

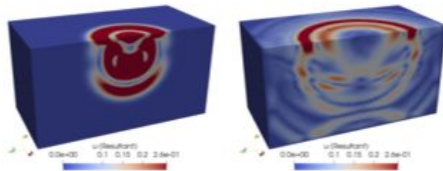
# Technical Challenges



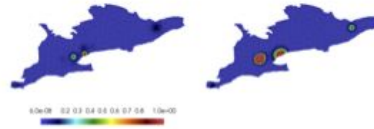
**deep CNNs for segmentation and classification**



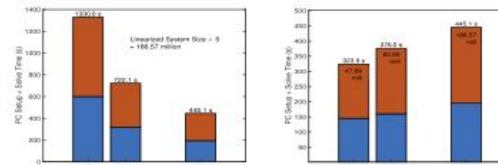
**Acoustic wave propagation**



**3D earthquake wave propagation**



**Infectious disease modelling**



**Scalable solver development**



**High performance computing**

# Towards an Open Science Leader

## Challenge

- Designing and building for understanding
- Designing and building for participation and inclusion

## Learning

- ❖ Incorporating feedback loops from users
- ❖ Designing and creating new ideas with contributors and users and allowing contributors to share governance on the project
- ❖ Building project documents, workflows and contribution guidelines
- ❖ Conducting webinars and orientation calls for contributors and users
- ❖ Mentoring and guiding others to being an open science leader

# Progress

- ❖ Conducted a DRAC resource awareness webinar to fellow researchers from different university and disciplines and collected feedback
- ❖ Developed an open canvas [Canvas](#)
- ❖ Updated my open source project resource page with detailed README, License and contributor guidelines : [Github](#)
- ❖ Created OSF account for generating DOI and sharing project documents to larger audience : [OSF](#)

# Future Work and Open Questions

- ❖ Engaging wider audience through university wide programs and social media outreach
- ❖ How to engage decision makers to create a positive impact on improved accessibility to E-D-I-A groups ?
- ❖ How to create an inclusive collaboration in design and building state of the art digital tools useful for the community ?
- ❖ How to mobilize financial and other resources for successful completion of the project
- ❖ How to effectively create a community of world class science educators and leaders



# THANK YOU

## Questions/ Feedbacks ?

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