# Mukund Raj

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#### **EXPERIENCE**

# Argonne National Laboratory Postdoctoral Appointee

May 2018 - May 2021

Implemented a parallel particle tracer for in-situ analysis and visualization of MPAS-Ocean simulation output. Researched and implemented novel load balancing methods for the parallel particle tracer. Languages used: C++/Fortran.

# SCI Institute, Univ. of Utah Graduate Research Assistant

Jul 2013 - May 2018

Developed novel visualizations and statistical methods to summarize ensemble data of various types such as ensembles of isosurfaces, paths on a graph, high dimensional data and graphs. Languages used: Python, JavaScript, HTML, C++

# Visual Perception lab, Univ. of Utah Graduate Research Assistant

Jan 2012 - Jun 2013

Designed and developed VR experiments to evaluate the effect of animated self avatars in virtual environments. Languages used: Python

# Infosys labs, Infosys Tech. Ltd. Systems Engineer

Jul 2008 - Jul 2011

Maintained reporting module for a web accessibility, assessment & remediation tool and developed prototype social networking and augmeted reality platform for retail customers. Languages used: Java, JavaScript, HTML, SQL

#### **EDUCATION**

# University of Utah, Salt Lake City

PhD, Computing, GPA: 3.92

2013 - 2018

Thesis: Depth based Visualizations for Ensemble Data and Graphs

Advisor: Ross T. Whitaker

### MS, Computing, GPA: 3.93

2011 - 2013

2004 - 2008

Thesis: Effect of Animated Self-avatars in Virtual Environments

Advisors: William B. Thompson(Computing) & Sarah Creem-Regehr (Psychology)

#### University of Pune, Pune

BEng., Electronics & Telecomm., First Class with Distinction

Senior Project: Real-time Hand Gesture Recognition and Tracking

#### **SKILLS**

**Languages**: C++, Python, Javascript/Typescript, HTML

Visualization tools: OpenGL, VTK/Paraview

HPC/Parallel programming: MPI, C++11 threads

Web technologies: React, babylon.js, d3

Other tools: LATEX, Git, CMake, spack, pnetcdf, vim, tmux

#### **AWARDS**

- 2021: IEEE Pacific Visualization Best Paper Award
- 2019: IEEE Visualization Best Paper Award (Scientific Visualization track)
- 2017: IEEE Visualization Doctoral Colloquium Travel Grant
- 2016: Best Poster Award at UofUtah School of Computing annual poster session
- 2016: Lt Governor of Utah's Certificate of Appreciation for Volunteering
- 2015: Best Poster Award at UofUtah School of Computing annual poster session
- 2010: Spot Award, an Infosys performance award, for work on VR platform
- 2008: Medal for Best Senior Project in Electronics & Telecomm. department