

Abhishek Panchal

Computation and Modeling | Data Science | Game Development

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About Me

Experienced Research Scientist skilled in Systems Programming, Design Thinking, High-Performance Computing, Web Design and Development with Strong Science Communication, Design and Data Visualization Skills with cross domain knowledge. Building Pralay, a strategic board game bringing together aspects of social science, science fiction and fight against climate change.

Experience

Mphasis AI and Tech Lab, Ashoka University

Research Scientist

Jul 2025- Present

BharatSIM project

- > Leading BharatSIM, an agent based simulation framework to study disease spread and interventions under the guidance of **Dr. Gautam Menon**
- > Developing tools to improve the framework to study **vector borne and environmental diseases** adding GIS and social behavior.
- > Study on modeling **Non communicable diseases** in society and understanding same from socio-economic frameworks

Young India Fellowship Class of 2026, Ashoka University

Teaching Assistant

Jul 2025- Aug 2025

Statistical Thinking and Problem Solving in Modern Life- **Prof Santosh Venkatesh**

- > Developed and presented foundational statistics teaching modules for a diverse cohort of YIF
- > Extensively used data visualization tools (Desmos) to help understand complex statistical concepts with ease
- > Average overall rating of 6.09 out of 7 in course feedback/review.

NARL, ISRO, Department of Space

Scientist Engineer SD

Mar 2016 - Jul 2024

- > Received **Outstanding Grade** for all 8 years in Annual Performance and Assessment Report.
- > Participated in providing weather forecast support to more than **30 ISRO launch operations** at SDSC, SHAR.
- > Developed WebGIS-based website to visualize near real-time weather forecast data. Involved in the operational running of WRF-based daily weather forecast at NARL.
- > System administrator and Day-to-day management of BMS, Chillers, Cooling Towers, UPS,etc for the support of the Petascale Computing System at NARL. Liaison with all OEMs for efficient management of the system.
- > Part of research activities related to improving the understanding of dynamical processes behind **extreme weather events** such as cyclones, thunderstorms and western disturbances. 8 published articles in peer-reviewed journals. Google Scholar Link. <https://scholar.google.com/citations?user=dC8ZOpMAAAJ&hl=en>
- > Developed python teaching modules and organized python training at the laboratory for the **capacity building** of junior scientists and Research scholars.

Skills

Advanced Python, Scala, Full Stack Development, WebGIS, Affinity Design Stack

Moderate React, Blender, Manim (Math Animation Library), Linux Administration, LaTex, TensorFlow, OpenMP, MPI, Reinforcement Learning

Notable Projects

Typhoid Sim

July 2025- Present

- > Developed a agent based compartmental model to study effective usage of vaccine on population

Pralay- The Climate Change Game (www.pralaythegame.com)

September 2024- Present

- > Created **Pralay** A multiplayer strategic board game to study the climate related attitude change among players and drive discussions
- > Designed graphics and developed game mechanism including game elements, board, logos and branding
- > Playtested the game with more than 60 players physically and received average rating 6 out of 7 for the game
- > Received Outstanding Experiential Learning Module Award for the project

National Clean Air Program

Jun 2022-Jul 2024

- > A member of executive committee for National Clean Air Program, I oversaw the execution of sampling and analysis of air samples over 4 Indian cities. Liasoned with key stakeholders for the project and created data processing pipelines for the project

Administrative Portal to visualize Near Real Time Fire Events

Jun 2023 - Feb 2024

- › A flask based web application to help administrators and various stakeholder make informed decision regarding Agriculture related and Forest related Fire events.
- › Software Stack: Python, Flask, REST API, Plotly, Leaflet

Forecast Visualization Website

Jun 2021 - Dec 2023

- › A WebGIS based web application to visualize near real-time weather forecast data on GIS platform with interactive features
- › Software Stack: GDAL, CRUD REST API, Python, Flask, Pandas, HTML, CSS, JavaScript

Education

Young India Fellowship | Ashoka University

Post Graduate Diploma Liberal Studies

2024 – 2025

3.83/4

Indian Institute of Space Science and Technology

Bachelor of Technology Physical Sciences

2011 – 2015

6.75/10