Bharatesh Chakravarthi, Ph.D.,
Research Scholar, Virtual Environments Lab, GSAIM, Chung-Ang University, Seoul
Website | email: chakravarthi589@gmail.com

Statement of Research Interest

Respected Professor,   May 25, 2022

I am currently a research scholar at Virtual Environments Lab, Department of Computer Graphics and Virtual Reality, the graduate school of Advanced Imaging Science, Chung-Ang University, Seoul. I recently completed my Ph.D. degree requirements in May 2022.

My research practice at Virtual Environments Lab (2018-Till date) and five years of working as an assistant professor at engineering education institutes (2013-2018) have prepared me to be an influential researcher. In consultation with Prof. Chai Young Ho, my doctoral dissertation investigates the proxemics-based pervasive interaction for wide-area and high-speed serial motion recognition. During my research, I was involved in major funded projects which have helped me acquire software development skillsets. The following are some of the projects I have worked on.

- ***IMU Sensor-based Human Motion Synthesis Framework.***
  Objective: A GUI-based application system to interactively author realistic human motion, kinetically edit sensed motion data, and motion reconstruction using 3D humanoid models.
  Development Environment: C++, Qt, VTK, Xsens Awinda IMU sensors

- ***Design and Development of an Open-Source Tool for Human Motion Visual Analysis.***
  Objective: A Visual means to represent human motion as a trajectory over a 3D-Sphere and human motion decomposition.
  Development Environment: C++, OpenGL, VTK, Xsens Awinda IMU sensors, and Perception Neuron

- ***Pilot Experiment on Quaternion-Based 3D Gesture Tracking.***
  Objective: An Intuitive means to represent human motion as an equirectangular projection over a 2Dplane using the UV-mapping technique.
  Development Environment: C++, VTK, and Xsens Awinda IMU sensors

- ***An Open-Source Platform for Human Pose Estimation.***
  Objective: Heterogeneous Multi-Sensor system for pose tracking and estimation
  Development Environment: C++, VTK, and Xsens Awinda IMU sensors, Ouster OS1 Lidar

I plan to continue my research Human Activity Recognition (HAR), Human Computer Interaction (HCI), Human Motion Analysis, Motion Capture Systems (MoCap), Computer Vision, Virtual Reality (VR), Pose estimation, Sensors, and Visualization techniques.

Sincerely,
Bharatesh Chakravarthi