

# Bharatesh Chakravarthi

RESEARCH SCHOLAR · (PHD - COMPUTER GRAPHICS AND VIRTUAL REALITY) · M.TECH (COMPUTER NETWORKS) · B.E (INFORMATION SCIENCE)  
Virtual Environments Lab, The Graduate School of Advanced Imaging Science, Chung Ang University, Seoul, South Korea  
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## Summary

Currently working as a research scholar and pursuing PhD (fulltime) at Virtual Environments Lab, GSAIM, Chung Ang University, Seoul. Prior to this, I have worked as assistant professor for five years at Engineering Institutes in Bengaluru, India. I hold Master's degree in Computer Networks and Engineering. Bachelors Degree in Information science and Engineering.

## Work Experience

### Virtual Environments Lab, GSAIM

Seoul, South Korea

#### RESEARCH SCHOLAR

Aug. 2018 - PRESENT

- Currently working as a research scholar and pursuing full time PhD.
- Working on a research project "Proxemics based pervasive Interactions for the wide-area and high-speed serial motion recognition", supported by Institute of Information & Communication Technology Planning and Evaluation grant funded by the Republic of Korea government.
- Have developed an indigenous human motion authoring and editing system.
- Have involved continuously in research article publications and have attended several conferences and knowledge exchange programs.
- Have made contributions to open-source projects (Github) such as Visualization Toolkit (VTK) supported by Kitware Technologies®
- Have actively involved in research article reviews.

### Department of ISE, Jyothy Institue of Technology

Bengaluru, India

#### ASSISTANT PROFESSOR

July. 2015 - July. 2018

- Immaculately led and coordinated a technical forum - "Graphics Day". Also, organized several technical talks, workshops and faculty development programs.
- Have played a key role in developing and maintaining Jyothy Institute's official websites.

### Department of ISE, APS College of Engineering

Bengaluru, India

#### ASSISTANT PROFESSOR

June. 2013 - July. 2015

- Led and organized technical forum of ISE department - "Tech-Spark" and "SPARKUP-2014"
- Worked as a placement co-ordinator at department of placement & training, and gained experience in conducting various on campus & pool campus drives.

## Education

### Chung Ang University

Seoul, South Korea

#### PHD IN COMPUTER GRAPHICS AND VIRTUAL REALITY

August 2018 - PRESENT

- Currently pursuing doctoral degree at Virtual Environments Lab, Graduate school of advanced imaging science, Chung Ang University, Seoul, South Korea.

### The oxford College of Engineering, VTU

Bengaluru, India

#### MASTER OF TECHNOLOGY (M.TECH) IN COMPUTER NETWORKS AND ENGINEERING

August. 2011 - June. 2013

- A dissertation on "Interoperability issues between WiMAX and LTE" submitted in partial fulfillment of the requirements for the degree of master of technology.
- Got acquainted with Network Simulators (NS2 and NS3).
- Secured First Class with Distinction. (74.25 %)

### A.P.S College of Engineering, VTU

Bengaluru, India

#### BACHELOR OF ENGINEERING (B.E) IN INFORMATION SCIENCE

September. 2007 - June. 2011

- A dissertation on "Design and Implementation of an Energy aware routing protocol for Wireless Sensor Networks (WSN)" submitted in partial fulfillment of the requirements for the bachelor degree of engineering.
- Secured First Class. (64.5 %)

## Skills

#### Programming

C, C++, Python

#### SDK's/API's

VTK, Qt, Autodesk FBX, Octave

#### Tools

3ds Max (Biped Animation)

#### Hardware System

MoCAP System - Xsens MTw Awinda, Perception Neuron

Arduino uno, Raspberry Pi

#### Databases

MySQL

#### WebApp Development

HTML, PHP, Javascript, FileZilla FTP Server

## Research Interest

**Domains** Human Motion Sensing Technology, Human Motion Analysis, Human Computer Interaction, Data Visualization, Virtual Reality, Machine Learning

## Publications

### Multi-Sensor Systems for Object Tracking, Sensors, MDPI

Journal Article

TITLE: "AN OPEN-SOURCE PLATFORM FOR HUMAN POSE ESTIMATION AND TRACKING USING A HETEROGENEOUS MULTI-SENSOR SYSTEM"

27 March 2021

• <https://doi.org/10.3390/s21072340>

### Sensors for Activity Recognition, Sensors, MDPI

Journal Article

TITLE: "FUSION OF MULTIPLE LIDARS AND INERTIAL SENSORS FOR THE REAL-TIME POSE TRACKING OF HUMAN MOTION"

18 September 2020

• <https://doi.org/10.3390/s20185342>

### Computer Graphics and Virtual Reality, Applied Sciences, MDPI

Journal Article

TITLE: "MOTION-SPHERE: VISUAL REPRESENTATION OF THE SUBTLE MOTION OF HUMAN JOINTS"

18 September 2020

• <https://doi.org/10.3390/app10186462>

### The Korean Society of Mechanical Engineers

Conference, Seoul, South Korea

TITLE: "SENSED UNIT MOTION BASED AUTHORING FOR THE PRECISE HUMAN MOVEMENTS"

18-20 December 2020

• <https://www.dbpia.co.kr/journal/articleDetail?nodeId=NODE10527438>

### IEEE Conference on Virtual Reality and 3D User Interfaces

Conference, Atlanta, GA, USA

TITLE: "MOTIONNOTE: A NOVEL HUMAN POSE REPRESENTATION"

22-26 March 2020

• <https://ieeexplore.ieee.org/document/9090443>

### Korea Software Congress, The Korean Institute of Information Scientists and Engineers

Conference, Seoul, South Korea

TITLE: "QUATERNIONS BASED INTUITIVE VISUALIZATION FOR TRACKING WEIGHTLIFTING EXERCISES"

22-26 December 2019

• <https://www.dbpia.co.kr/journal/articleDetail?nodeId=NODE09301824>

### ACM SIGCHI Symposium on Engineering Interactive Computing Systems

Conference, Valencia Spain

TITLE: "PILOT EXPERIMENT OF A 2D TRAJECTORY REPRESENTATION OF QUATERNION-BASED 3D GESTURE TRACKING"

18-21 June 2019

• <https://doi.org/10.1145/3319499.3328235>

### Karnataka Science and Technology Academy Conference

Conference, Bengaluru, India

TITLE: "AN IOT BASED SMART TRASH BIN AND AUTOMATED GARBAGE MONITORING SYSTEM FOR SMART CITIES IN INDIA"

18-19 January 2018

• <https://reva.edu.in/ksta/#>

### IEEE International Advance Computing Conference

Conference, Bengaluru, India

TITLE: "INTENSIFYING THE LIFETIME OF WIRELESS SENSOR NETWORK USING A CENTRALIZED ENERGY ACCUMULATOR NODE WITH RF ENERGY TRANSMISSION"

12-13 June 2015

• <https://ieeexplore.ieee.org/document/7154694>

### International Journal of Engineering Research and Technology

Journal Article

TITLE: "SEAMLESS INTEROPERABILITY ACROSS LTE AND WIMAX USING VERTICAL HANDOVER MECHANISM"

20 June 2013

• <https://www.ijert.org/seamless-interoperability-across-lte-and-wimax-using-vertical-handover-mech>

## Certifications

2021	<b>Google Data Analytics Professional Certificate</b> , Course certification authorized by Google®	Online, Coursera
2021	<b>Python Programming</b> , Course certification authorized by University of michigan	Online, Coursera
2021	<b>Korean Language</b> , Course certification authorized by Yonsei University	Online, Coursera
2018	<b>Advanced Android Development and Designing Thinking</b> , Certification authorized by Google®	Google Development Center, Bengaluru
2017	<b>Android Fundamentals Faculty Training</b> , Certification authorized by Koenig Solutions Ltd and Google®	Koenig Solutions Ltd, Bengaluru
2015	<b>Intel HPC Code Modernization</b> , Certification authorized by Center for Development of Advanced Computing®	CDAC, Bengaluru
2014	<b>Faculty Enablement Program (FEP) on Foundation Program 4.0</b> , Certification authorized by Infosys Limited®	Infosys Development Center, Bengaluru
2014	<b>Microsoft Faculty Fellow</b> , Certification authorized by Microsoft® and CITech	CITech, Bengaluru

## Technical Talks

### Blockchain and Internet of Things

UIT-RGPV

AICTE Training and Learning (ATAL) Academy Sponsored Faculty Development Program, organized by Department of Computer Science and Engineering.

*Bhopal, Madhya Pradesh, India*

*31st July 2021*

### Blockchain of Things

BNMIT

AICTE Training and Learning (ATAL) Academy Sponsored Faculty Development Program, organized by Department of Computer Science and Engineering.

*Bengaluru, Karnataka, India*

*18th January 2021*

### Challenges and Research Directions for Blockchains

SONA COLLEGE OF TECHNOLOGY

AICTE Sponsored Faculty Development Program, organized by Department of Computer Science and Engineering.

*Salem, Tamilnadu, India*

*10th February 2021*

### Human Computer Interaction in Virtual Environments

RR INSTITUTE OF TECHNOLOGY

Faculty Development Program, organized by Department of Computer Science and Information Science Engineering.

*Bengaluru, Karnataka, India*

*17th August 2020*

### Mobile App Development using Android Studio - Hands-on Session

SRI VENKATESHWARA COLLEGE OF ENGINEERING

Indian Society For Technical Education sponsored Student Development Program, organized by Department of Computer Science and Engineering.

*Bengaluru, Karnataka, India*

*24th February 2018*

### IOT and its Applications

DR. AIT

Student Development Program, organized by Department of Computer Applications.

*Bengaluru, Karnataka, India*

*1st March 2017*

### Opportunities in the field of IOT

BMS COLLEGE OF ENGINEERING

Technical Education Quality Improvement Programme of Government of India Sponsored Student Development Program, organized by Department of Computer Science and Engineering.

*Bengaluru, Karnataka, India*

*6th March 2017*

### Programming and Application Development using Python

SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

Student Development Program Organized by Department of Computer Applications.

*Bengaluru, Karnataka, India*

*11th March 2017*

## Article Reviews

**Journals** MDPI - Sensors, Applied Science, Sustainability, Applied System Innovation, Vehicles, AI, Processes.  
Elsevier - ISPRS Journal of Photogrammetry and Remote Sensing

**Conferences** IEEE - ICECCME 2021  
ACM - VRST 2021

## Professional Body Membership

**ISTE** Lifetime member - International Society for Technology in Education  
**CSI** Lifetime member - Computer Society of India

## Achievements, Awards & Funding

### ACHIEVEMENTS

- |      |  |                         |
|------|--|-------------------------|
| 2017 | <b>Convener</b> , "Graphics Day 2017", An Intercollegiate Project Exhibition                         | <i>Bengaluru, India</i> |
| 2017 | <b>Co-Convener</b> , Faculty Development Program on "OOP with Java for DAA lab and ARM Programming"  | <i>Bengaluru, India</i> |
| 2016 | <b>Convener</b> , 5th National Conference on Emerging Trends in Engineering Technologies (ETET-2016) | <i>Bengaluru, India</i> |

### STUDENT COLLABORATIONS & AWARDS

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|------|---|-------------------------|
| 2018 | <b>1st Place</b> , Project Exhibition, The 10th Annual Conference of Karnataka Science and Technology Academy held at REVA University | <i>Bengaluru, India</i> |
| 2018 | <b>2nd Place</b> , Project Exhibition, State level Engineering Project Exhibition held at BGS Institute of Technology                 | <i>Karnataka, India</i> |
| 2017 | <b>Certificate of Merit</b> , Project Exhibition, Unisys Cloud 20/20 V8   | <i>Bengaluru, India</i> |
| 2016 | <b>Best Project</b> , Project Exhibition, "TECH-STORM 2016" organized at GSSSET in association with IETE                              | <i>Mysore, India</i>    |
| 2016 | <b>Certificate of Merit</b> , Project Exhibition, Unisys Cloud 20/20 V7   | <i>Bengaluru, India</i> |

## FUNDING

2018	<b>VTU</b> , Financial Assistance sanctioned by the Visvesvaraya Technological University (VTU) for a project entitled “An IoT Based Smart Trash Bin and Automated Garbage Monitoring System for Smart Cities in India”	<i>Belagavi, India</i>
2017	<b>KSCST</b> , Project Funding Sanctioned under the 41st series of student project programme: 2017-18 (41st Series of SPP), from Karnataka State Council for Science and Technology. Project Title - “An IoT Based Smart Trash Bin and Automated Garbage Monitoring System for Smart Cities in India”	<i>Bengaluru, India</i>

## Course Preference

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<b>Programming Languages</b>	C, C++, Python.
<b>Data Analytics</b>	Data Visualization using Tableau, Data Analysis with R Programming.
<b>Machine Learning</b>	Neural Networks, Support Vector Machines.
<b>Virtual Reality</b>	3D Models, 3D Interaction, AR/VR/MR/XR Technologies and Applications
<b>Networks</b>	Data Communication, Computer Networks, Wireless Sensor Networks
<b>Computer Graphics</b>	OpenGL, Visualization Toolkit (VTK)

## Personal Details

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<b>Name</b>	Bharatesh Chakravarthi
<b>Date of Birth</b>	1989-05-05
<b>Nationality</b>	Indian
<b>Passport Status</b>	Valid Passport until 2031
<b>Marital Status</b>	Married
<b>Languages</b>	English, Kannada, Korean(Elementary)
<b>Current Residence</b>	Seoul, South Korea
<b>email</b>	chakravarthi589@gmail.com, bc05@cau.ac.kr
<b>Contact Number</b>	(+91) 80954 64858, (+82) 10-6452-4858