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 imagining 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 *27 March 2021*
Multi-Sensor System"
- 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" *16 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

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

Technical Talks

Blockchain and Internet of Things   *Bhopal, Madhya Pradesh, India*
UIT-RGPV   *31st July 2021*
AICTE Training and Learning (ATAL) Academy Sponsored Faculty Development Program, organized by Department of Computer Science and Engineering.

Blockchain of Things   *Bengaluru, Karnataka, India*
BNMIT   *18th January 2021*
AICTE Training and Learning (ATAL) Academy Sponsored Faculty Development Program, organized by Department of Computer Science and Engineering.

Challenges and Research Directions for Blockchains   *Salem, Tamilnadu, India*
SONA COLLEGE OF TECHNOLOGY   *10th Febraury 2021*
AICTE Sponsored Faculty Development Program, organized by Department of Computer Science and Engineering.

Human Computer Interaction in Virtual Environments   *Bengaluru, Karnataka, India*
RR INSITUE OF TECHNOLOGY   *17th August 2020*
Faculty Development Program, organized by Department of Computer Science and Information Science Engineering.

Mobile App Development using Android Studio - Hands-on Session   *Bengaluru, Karnataka, India*
SRI VENKATESHWARA COLLEGE OF ENGINEERING   *24th Febraury 2018*
Indian Society For Technical Education sponsored Student Development Program, organized by Department of Computer Science and Engineering.

IOT and its Applications   *Bengaluru, Karnataka, India*
DR. AIT   *1st March 2017*
Student Development Program, organized by Department of Computer Applications.

Opportunities in the field of IOT   *Bengaluru, Karnataka, India*
BMS COLLEGE OF ENGINEERING   *6th March 2017*
Technical Education Quality Improvement Programme of Government of India Sponsored Student Development Program, organized by Department of Computer Science and Engineering.

Programming and Application Development using Python   *Bengaluru, Karnataka, India*
SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY   *11th March 2017*
Student Development Program Organized by Department of Computer Applications.

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

STUDENT COLLABORATIONS & AWARDS

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

2018	**VTU**, 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"	*Belagavi, India*
2017	**KSCST**, 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"	*Bengaluru, India*

Course Preference

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

Personal Details

Name	Bharatesh Chakravarthi
Date of Birth	1989-05-05
Nationality	Indian
Passport Status	Valid Passport until 2031
Marital Status	Married
Languages	English, Kannada, Korean(Elementary)
Current Residence	Seoul, South Korea
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