PERSONAL INFORMATION

GAURAV VIVEK BHALERAO

Dept. of Psychiatry, National Institute of Mental Health and Neurosciences, Bengaluru-560029, India

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Sex **Male** | Date of birth **05/06/1991** | Nationality **Indian**

PhD Scholar & Research Fellow

THESIS TOPIC

Brain Imaging Correlates of Diagnosis, Persistent symptoms and tDCS effects in Schizophrenia and Obsessive-compulsive disorder: Computational Approach

EDUCATION

Dates	**August 2013 to August 2015**
Title of qualification awarded	**Master of Technology in Biomedical Engineering**
Name of organisation	**Manipal Institute of Technology, Manipal University, Manipal**
Score	**7.85/10 (CGPA)**
Dates	**August 2008 to July 2012**
Title of qualification awarded	**Bachelor of Engineering in Electronics & Telecommunication**
Name of organisation	**University of Pune**
Dates	**June 2007 to June 2008**
Title of qualification awarded	**Class XII (HSC)**
Name of organisation	**Higher Secondary Certificate**
Dates	**June 2005 to June 2006**
Title of qualification awarded	**Class X (SSC)**
Name of organisation	**Secondary School Certificate**

WORK EXPERIENCE

Dates	**From 2016 (Currently Working)**
Position	**Research Fellow, PhD Scholar**
Name of organisation	**National Institute of Mental Health & Allied Sciences (NIMHANS), Bengaluru**
Department	**Dept. of Psychiatry**
Dates	**April 2016-June 2016**
Position	**Research Trainee**
Name of organisation	**National Institute of Mental Health & Allied Sciences (NIMHANS), Bengaluru**
Department	**Dept. of Psychiatry**

Dates	**2014-2015**
Position	**Teacher in Public School, Udupi, Karnataka**
Name of organisation	**Pearson Education Services Pvt. Ltd.**
Subjects	**Mathematics**

Dates	**2013-2014**
Position	**Teaching Assistantship**
Name of organisation	**Manipal Institute of Technology**
Subjects	**Electronic Devices and Circuits, Integrated Circuits and Applications**

PERSONAL SKILLS

Mother tongue(s) **Marathi**

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1: Proficient User	C1:Proficient User	C1:Proficient User	C1:Proficient User	C1:Proficient User
Hindi	C1: Proficient User	C1:Proficient User	C1:Proficient User	C1:Proficient User	C1:Proficient User
Kannada	A2: Elementary User	B2:Proficient User	A2:Elementary User	A2:Elementary User	A2:Elementary User

Communication skills

- Good communication skills gained through various presentations, conferences, workshops, technical events and interactions throughout the curriculum.

Organisational / managerial skills

- Leadership (was responsible for leading the project teams twice)
- Time Management (learnt through timely completion of projects and assignments)
- Decision making (learnt from the bitter experiences throughout the curriculum)
- Problem Solving (learnt by tackling challenging Situations in academic projects)
- Team Worker (learnt through various projects and events throughout academics)
- Good Understanding Capabilities

Subject-specific skills

- Digital Image Processing, Medical Image Analysis (sMRI, rest-fMRI, DTI, Task fMRI), Soft Computing, Machine Learning, Statistics
- **Subjects Studied**: Medical Image Processing, Digital Image Processing, Biomedical Signal Processing, Pattern Recognition and Classification, Bio mechanics & Bio dynamics, Bio Instrumentation, Anatomy and Physiology, Intelligent Control Systems, Tissue Engineering, Biomaterials and Artificial Organs

Computer skills

- Good command of Microsoft Office™ tools
- Operating Systems : Windows 9x/NT/XP/Win7/Win8/Win10, Linux/CentOS, Ubuntu
- Programming Languages and Softwares: C, HTML, Python, R , Shell Scripting, MATLAB, Weka, SPSS
- Medical Imaging tools: Statistical Parametric Mapping (SPM), Advanced Normalisation Tools (ANT), FSL, VTK-ITK Tools, Automated Image Registration (AIR), Freesurfer, MRICron, MRICroGL
- Computational Modeling tools: Simnibs, ROAST, ScanIP, Abaqus

Research Interests

- Schizophrenia
- Obsessive compulsive disorder
- Neuroimaging
- Non-invasive brain stimulation techniques
- Computational modeling
- Machine learning
- Pattern Recognition Techniques
- Computer Aided Diagnosis

Publications

- First Author: Construction of population-specific Indian MRI brain template: Morphometric comparison with Chinese and Caucasian templates , Asian Journal of Psychiatry, pp. 93-100, Jun-2018
- First Author: Systematic Evaluation of the Impact of Defacing on Quality and Volumetric Assessments on T1-weighted MR-Images, (Under Review) Journal of Neuroradiology, (Dec. 2020)
- First Author Protocol for Magnetic Resonance Imaging Acquisition, Quality Assurance, and Quality Check for the Accelerator Program for Discovery in Brain Disorders using Stem Cells - the Indian ADBS project, (under review) International Journal of Methods in psychiatric Research (Apr. 2020)
- First Author: Morphological and Texture based classification of dementia from brain MR images", Journal of Medical Imaging and Health Informatics, Vol. 7, No. 2, pp.293-304, April-2017.
- First Author: Classification of brain MR images using Corpus Callosum shape measurements , International Journal of Biomedical and Clinical Engineering, Volume 4, No. 2, pp.51-59, Jul-Dec 2015.

Conferences

- Accepted abstract as first author: White Matter Correlates of Electric Field Activity in HD-tDCS for Schizophrenia: A Computational Neuromodeling Study, Brain Stimulation Conference, 2019
- Accepted abstract as second author: Neural correlates of the effect of add-on transcranial direct current stimulation on persistent auditory verbal hallucinations in schizophrenia: A functional MRI study, Brain Stimulation Conference, 2019
- Accepted abstract as second author: Effect of High-definition transcranial direct current stimulation (HD-tDCS) on auditory hallucinations in schizophrenia: Correlates with Gray Matter Volume, Brain Stimulation Conference, 2019
- Accepted abstract as co-author: Effect of genetic variations and gene-gene interactions of Th17 pathway related cytokine genes on psychopathology and brain volumetric changes in schizophrenia patients , WFSBP 2019
- Authored an IEEE Conference Paper named "K-means Clustering Approach for the Segmentation of Corpus Callosum from Brain Magnetic Resonance Images", in International Conference on Circuits, Communication, Control and Computing (I4C 2014) held at Bangalore, India, Nov. 2014, pp.434-437
- Co-authored a conference paper named "An image based approach for the classification of dementia of brain magnetic resonance images" in International Conference on Computing and Communication Systems (I3CS 2016) held at Shilong, India, Nov. 11-13, 2016

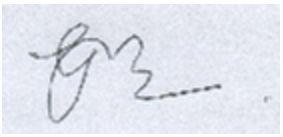
Projects

- **Non-Invasive Temporal Interference Brain Stimulation (May 2018-Present)**
- **Personalised Neuromodulation (Jan 2018- Present)**
- **Accelerator program for discovery in brain disorders using stem cells (Jul 2016- Present)**
- **Lab-QA2Go (Collaborator on GitHub): MRI quality check protocols (Sep 2018- Jun 2019)**
- **Extraction of Corpus Callosum for the Detection of Abnormality in Brain Magnetic Resonance Images (2014-2015)**

Additional Activities

- Participated Sequence Development and Data Handling - Philips Innovation Center Bengaluru
- Participated Pulse Programming- Philips Innovation Center, Bengaluru
- Attended a workshop at IIT Madras for 6 days: Center for computational brain research winter course on "Machine Intelligence and Brain Research" (2 January 2018 – 7 January, 2018)
- Participated in an online project contest arranged by Dassault Systemes academia department with project named 'Non-Invasive Temporal Interference Brain Stimulation'
- Academic presentation on Artificial Neural Networks at Arts Theatre, NIMHANS
- Co-authored poster presentation: Poster-Search for trans-diagnostic neurological endophenotypes for severe mental illness: Analytical challenges
- Attended VTK-ITK imaging tools workshop, Manipal Institute of Technology

Declaration: I hereby declare that the information above is true and correct to the best of my knowledge.



Gaurav Vivek Bhalerao
Date: January 2021
Place: Bengaluru, India