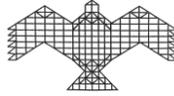


Deadline: **August 31, 2021**

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Junior Research Fellow Position in the area of  
**“Causality Testing Methods in Neuroscience”**

**National Institute of Advanced Studies, Bangalore**

National Institute of Advanced Studies (NIAS) was conceived and founded in 1988 by the late Mr. J. R. D. Tata, who sought to create an institution to conduct advanced multidisciplinary research. Housed in a picturesque green campus in Bangalore the Institute serves as a forum to bring together individuals from diverse intellectual backgrounds, in the natural and life sciences, humanities, social sciences, and conflict and security studies. The philosophy underlying NIAS is given shape by its multidisciplinary research teams. The Institute is unique in its integrated approach to the study of intersections between science and technology, philosophy, social issues and leadership. The objective is to nurture a broad base of scholars, managers and leaders who would respond to the complex challenges that face contemporary India and global society, with insight, sensitivity, confidence and dedication. For more details: [www.nias.res.in](http://www.nias.res.in)

**About the Project:** Understanding causal relationships (directed functional connectivity) between different units of the brain are of high significance in cognitive neuroscience and consciousness research. Several causality testing methods have been proposed in the literature to unearth causal relationships between brain regions from time series recordings of neural activity. This Cognitive Science Research Initiative (CSRI), Department of Science & Technology (DST) funded project aims to critically and rigorously examine causality testing methods, their underlying mathematical principles and properties, and their role in scientific theories of consciousness.

**Title of Position:** Junior Research Fellow

**Job description:** The JRF will be required to read research papers pertaining to causality testing (such as Granger Causality, Transfer Entropy and others), measures of consciousness (such as Causal Density and others) and implement the same in MATLAB/Python/C/C++. The job will also involve reading journal papers, studying the underlying mathematical principles of these methods, and analyzing results on both simulated and real-world data-sets. A good amount of research work is envisaged.

**Qualifications:**

Graduate/Post-Graduate degree in Professional Course i.e., B.E/B.Tech/M.E/M.Tech (in Computer Science, Computer Engg., Electronics & Comm. Engg., Electrical & Electronics Engg., or related disciplines) or M.Sc. (Mathematics, Physics, Computer Science, Electronics, Cognitive Neuroscience or related disciplines), selected through National Eligibility Tests – CSIR-UGC NET and GATE. Previous work experience is not mandatory, but the candidate must have a strong background in computational techniques and sound mathematical background. Comfortable with programming in MATLAB/Python is a must.

**Fellowship:**

Basic fellowship of INR 31,000 + HRA @ 24% which amounts to a total amount of INR 38,440/- (per

Deadline: **August 31, 2021**

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month).

For details of research of the Principal Investigator, please visit:

URL: <https://sites.google.com/site/nithinnagaraj2/>

**Mode of Application:**

Interested applicants should submit their curriculum vitae electronically **(as a single PDF document)** along with the following documents:-

1. Covering letter (with latest CV)
2. Statement of Purpose
3. Copy of degree certificate and GATE/NET qualification certificate

The deadline for receiving applications is **August 31, 2021**. Short-listed candidates will be invited for an online interview.

**The applications should be addressed to (with subject line 'JRF-CSRI'):**

Dr. Nithin Nagaraj  
National Institute of Advanced Studies  
Indian Institute of Science Campus  
Bangalore-560, 012, India  
E-mail: [nithin.nagaraj@gmail.com](mailto:nithin.nagaraj@gmail.com)