

ΑΝΑΡΤΗΤΕΑ ΣΤΟ ΔΙΑΔΙΚΤΥΟ



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
ΥΠΟΥΡΓΕΙΟ ΑΝΑΠΤΥΞΗΣ ΚΑΙ ΕΠΕΝΔΥΣΕΩΝ
ΓΕΝΙΚΗ ΓΡΑΜΜΑΤΕΙΑ ΕΡΕΥΝΑΣ ΚΑΙ ΚΑΙΝΟΤΟΜΙΑΣ

ΙΔΡΥΜΑ ΤΕΧΝΟΛΟΓΙΑΣ ΚΑΙ ΕΡΕΥΝΑΣ, ΙΝΣΤΙΤΟΥΤΟ ΠΛΗΡΟΦΟΡΙΚΗΣ

Ταχ. Διεύθυνση: Ν. Πλαστήρα 100, 70013 Ηράκλειο Κρήτης

Α.Π. 79339
Ηράκλειο, 19-05-2022

Call for expression of interest for one (1) position, for one (1) MSc Student in the Institute of Computer Science (ICS) Foundation for Research and Technology – Hellas (FORTH)

Position(s): One (1) position for an MSc Student

Project: “BNL – Brain Networks in Learning” (Grant Agreement number: 895465) funded under Horizon 2020, H2020-MSCA-IF-2019

Desired starting date: July 1st, 2022

Duration: 6 months with possibility of extension

Location: Heraklion, Crete, Greece

Opening date: 19/05/2022

Closing date: 03/06/2022

Ref.: “ICS-1880”

Description

The candidate will participate in the R&D work of FORTH within the BNL project. We seek one MSc student to participate in the research activities of FORTH-ICS in the context of the H2020 project “BNL – Brain Networks in Learning”, funded under Horizon 2020 H2020-MSCA-IF-2019. The candidate will develop statistical models of connectivity between cortical brain areas using Dynamic Bayesian Networks applied on data from fMRI experiments acquired from human subjects performing a verbal learning task.

Abstract

The human brain retains the ability to learn and remember throughout a person's life. According to the prevailing scientific view, this ability emerges from changes in connectivity between neurons from different areas of the brain. Changes in the connections between neurons and brain areas lead

to their functional grouping. We believe that this functional grouping corresponds to the mnemonic trace of our experiences. But exactly how this mnemonic trace emerges has not been sufficiently studied. Our aim is to investigate changes in connectivity between brain regions during verbal learning. It is well known that when memorizing a list of words, brain activity shifts from the initial activation of cortical areas related to word processing, attention, and memory encoding to the activation of the system associated with memory recognition and retrieval. Our goal is to study the changes in connectivity between the regions of these two systems and the rest of the cortex while the subject is learning to perform the task. We expect that the changes in functional connectivity that we observe will accurately predict a subject's learning rate.

Requirements and desired qualifications for one position of an MSc Student

Required qualifications:

- BSc degree in Statistics, Mathematics, Computer Science, Neuroscience or related field
- MSc student in Neuroscience, Computer Science or related field
- Experience working with functional brain data, image and time-series data
- Experience with dynamic systems and statistics
- Experience with a high-level programming language (R, Python, MATLAB)

Desired qualifications:

- Experience with Dynamic Bayesian Networks
- Experience with "machine learning" (hyperparameter tuning, model evaluation, python frameworks)
- Experience with git, linux, parallel computing (CPU/GPU), literate programming (Jupyter, RMarkdown)

Application Submission

Interested candidates can submit their applications via <http://www.ics.forth.gr/jobs> using the link "Apply for the position" under the announcement.

Applications must include:

- Detailed CV, including qualifications and interests in the above areas
- Scanned copies of academic titles; academic transcripts for undergraduate and postgraduate degrees

Contact Information:

For information and questions about the advertised position, please contact Vassilis Kehayas at vkehayas@ics.forth.gr.

Selection Announcement

The result of the selection will be announced on the website of ICS-FORTH. Candidates have the right to appeal the selection decision, by addressing their written objection to the ICS secretariat within five (5) days since the results announcement on the web. They also have the right to access (a) the files of the candidates as well as (b) the table of candidates' scores (ranking of candidates results). All the above information related to the selection procedure will be available at the secretariat of ICS-FORTH in line with the Hellenic Data Protection Authority. Access to personal data of co-candidates shall be limited to personal data (and relevant data) and supporting documents which have been the basis of the evaluation of the candidates for the specific post(s). Prior to the announcement of the personal data and/or documents of the co-candidates to the applicant, FORTH will inform the data subjects in an appropriate way.

GDPR Disclaimer

FORTH is compliant with all legal procedures for the processing of personal data as defined by the **Regulation EU/2016/679 on the protection of natural persons with regard to the processing of personal data**.

FORTH processes the personal data and relevant supporting documents that you have submitted to us. Processing of that data is carried out exclusively for the needs and purposes of this specific call. Such data shall not be transmitted to or communicated to any third party unless required by law.

FORTH retains the above data up to the announcement of the final results of the call, unless further process and reservation is required by law or for purposes of exercise, enforcement, prosecution of certain one's legitimate legal rights' as defined in the Regulation EU/2016/679 and/or in national law.

We inform you that under the **Regulation EU/2016/679** you have the rights to be informed about your personal data, access to, rectification and erasure, restrictions of process and objection to as provided by applicable regulation and national laws.

We acknowledge also to you, that you have the right to file a complaint to the national Data Protection Authority. For any further information regarding exercise of your personal data protection rights, you may contact the Data Protection Officer at FORTH at dpo@admin.forth.gr.

You have the right to withdraw your application and consent for the processing of your personal data at any time. We inform you that, in this case, FORTH shall destroy such documents and/or supporting documents submitted and shall delete the related personal data.