Serafeim Loukas

Nationality: *Greek*
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https://bit.ly/32A9jyb

Education

2017– 2021 **PhD in Electrical Engineering** Swiss Federal Institute of Technology Lausanne, Lausanne, Switzerland.
-Dissertation title: "Methods for functional connectivity and morphometry in neonatal neuroimaging to study neurodevelopment". Supervision : Prof. Dimitri Van De Ville, Prof. Petra Hüppi.

2015–2017 **Master in Neuroscience (M.Sc.)** University of Geneva, Geneva, Switzerland
-Thesis title: "Effective connectivity analysis of brain networks in preterm infants". Supervision : Prof. Dimitri Van De Ville, Prof. Petra Hüppi.

2010–2015 **Diploma in Electrical and Computer Engineering** Five years program at National Technical University of Athens, Athens, Greece
-Thesis title: "Analysis of biochemical phenotypes of the carotid atherosclerosis: Correlations with image-based and clinical indicators using clustering methods". Supervision : Prof. Konstantina Nikita.

2007–2010 **General Lyceum Certificate** Aristotelian General Lyceum, Corinth, Greece
-Participation to the Pan-Hellenic Exams 2009-2010, (19.242/20.000 points)

Awards and distinctions

- **Summa Cum Laude Merit Award** at the International Society for Magnetic Resonance in Medicine Annual Meeting (ISMRM) 2020.
- **Best poster presentation award**, Neuroscience Day (2016) at Campus Biotech, Geneva
  Best poster award among 30 neuroscience posters
- **Honorary Distinction** (2010) by the Cultural Center of Corinth, Greece
  Excellent lyceum student
- **Honorary Distinction** (2006-2007) by the Ministry Of Education, Greece
  Excellent gymnasium student

Research Experience

2017 - 2021	**Doctoral Candidate** - Swiss Federal Institute of Technology Lausanne & University of Geneva Lausanne & Geneva, Switzerland *-Responsibilities*: *Research, scientific writing, project management, supervision of students, teaching activities.* *-Dissertation Title: "Brain connectomics: multivariate and predictive models for neurodevelopment".* *-Keywords*: *Brain Connectomics, Network science, fMRI, Machine Learning, Signal Processing, Python, MATLAB, Big Data*
2015–2017	**Master Thesis** - University of Geneva, Geneva, Switzerland *-Thesis title*: *"Effective connectivity analysis of brain networks in preterm infants".* *-Keywords*: *Brain Connectomics, Brain networks, fMRI, MATLAB*
2010–2015	**Bachelor Thesis** - National Technical University of Athens, Athens, Greece *-Thesis title*: *"Analysis of biochemical phenotypes of the carotid atherosclerosis: Correlations with image-based and clinical indicators using clustering methods".* *-Keywords*: *Clustering, Unsupervised Learning, Signal Processing, MATLAB*

Teaching activities

2017 - 2021

- Image Processing I (MICRO-511)* & Image Processing II (MICRO-512)*
- Signal processing for functional brain imaging (MICRO-513)*

** Master courses at the Swiss Federal Institute of Technology Lausanne (EPFL)*

Professional experience

2020 - Present	**Official author at Medium** *Objective*: Publishing high-quality scientific articles for Towards Data Science & AI In Plain English publications
2017 - Present	**Ambassador of the E3 – EPFL Excellence in Engineering Summer internship program** EPFL, Geneva, Switzerland *Responsibilities*: *Contact and motivate students to apply for the E3 program. Promotion of the engineering school and research activities*

Foreign Languages

Greek	**Native**
English	**Proficient User** -ETS TOEIC Certificate Of Achievement -Examination for the Certificate of Competency in English (ECCE), University of Michigan
French	**Intermediate User** -DELF A1 & A2 -Current level:B1-B2

List of Publications & Presentations

Journal Papers

- **Loukas, S.***, Lordier, L.*, Grouiller, F., Vollenweider, A., Vasung, L., Meskaldij, D.-E., Lejeune, F., Pittet, M.P., Borradori-Tolsa, C., Lazeyras, F., Grandjean, D., Van De Ville, D., Hüppi, P.S., 2019. Music processing in preterm and full-term newborns: A psychophysiological interaction (PPI) approach in neonatal fMRI. NeuroImage 185, 857–864.
DOI: https://doi.org/10.1016/j.neuroimage.2018.03.078
- **Loukas, S.***, Lordier, L.*, Meskaldij, D.-E., Filippa, M., Sa de Almeida, J., Van De Ville, D., Hüppi, P.S., 2020. Musical memories in newborns: A resting-state functional connectivity study (Submitted to Human Brain Mapping Journal, 2021)
- Gui, L., **Loukas, S***., Lazeyras, F., Hüppi, P.S., Meskaldji, D.-E., Borradori Tolsa, C., 2019. Longitudinal study of neonatal brain tissue volumes in preterm infants and their ability to predict neurodevelopmental outcome. NeuroImage 185, 728–741.
DOI: https://doi.org/10.1016/j.neuroimage.2018.06.034

Oral Presentations

- **Loukas, S.,** (2017).*"Music training enhances functional connectivity in preterm newborns"*, CIBM/BBL day 2017, Geneva, Switzerland
- **Loukas, S.,** (2019). *"Investigating the effects of an early intervention in preterm newborns: A resting-state functional connectivity study"*, ISMRM Annual Meeting 2019, Montreal, Canada

Conference Abstracts Presentations

- **Loukas, S.**, et al., (2020). "*Resting State Functional Connectivity and Angiogenesis-related Gene Co-Expression Networks in early brain development*", Proc. Intl. Soc. Mag. Reson. Med. 28, ISMRM, Virtual conference.
(Link: `https://index.mirasmart.com/ISMRM2020/PDFfiles/4588.html`)
- **Loukas, S.**, et al., (2019). "*Investigating the effects of an early intervention in preterm newborns: A resting-state functional connectivity study*", Proc. Intl. Soc. Mag. Reson. Med. 27, ISMRM, Montreal, Canada.
(Link: `https://index.mirasmart.com/ISMRM2019/PDFfiles/0045.html`)
- **Loukas, S.,** et al., (2018). "*Adaptive linear discriminant analysis for complex networks to study extreme prematurity and intrauterine growth restriction effects at school age*", Proc. Intl. Soc. Mag. Reson. Med. 26, ISMRM, Paris, France.
(Link: `https://index.mirasmart.com/ISMRM2018/PDFfiles/5214.html`)
- **Loukas, S.**, et al., (2017). "*Music training enhances functional connectivity in preterm newborns*", Proc. Intl. Soc. Mag. Reson. Med. 25 (2017), ISMRM, Hawaii, USA.
(Link: `https://cds.ismrm.org/protected/17MProceedings/PDFfiles/4103.html`)

Certificates

- *Certification of knowledge of IT application:* **MS Outlook 2002**, **MS Access 2002**, **MS Power Point 2002**, **MS Excel 2002**, **MS Word 2002**
- *Certification of completion:* **Python for Data Science Essential Training** by LinkedIn
https://drive.google.com/file/d/1p6XSvCmcGzALq6BOAx6yIcjrkybX7QtP/view
- *Certification of completion:* **Python, ranking in the Top 10%** by TestDome
https://www.testdome.com/cert/234e51e1939b4415bd8b6bc07de745b6
- *Certification of completion:* **Applied Machine Learning in Python** by University of Michigan
https://www.coursera.org/account/accomplishments/certificate/N52WWPJGQTNY
- *Certification of completion:* **Statistical Data Visualization with Seaborn** by Coursera
https://www.coursera.org/account/accomplishments/certificate/9MG2WC7A6MHW

Skills

- **Industry Knowledge**: Data Science, Data Analysis & Visualization, Machine Learning, Statistical learning, Statistics & Probability, Research, Scientific Writing & Communication
- **Interpersonal Skills**: Communication, Teamwork, Problem-solving, Leadership, Responsibility, Flexibility, Conflict Resolution, Fast Learner
- **Operating Systems**: Windows XP / Vista / 7 / 8 / 10 and MacOS
- **Advanced user of Microsoft Office™**: Excel™, Word™, PowerPoint™, Access™, Outlook™
- **Adobe Acrobat** Writer and Reader
- **Web browsers**: Internet Explorer, Mozilla Firefox, Google Chrome, Safari, Opera
- **Basic Design** with AutoCAD by Autodesk
- **Advanced Programming knowledge** in Python and MATLAB
- **Basic Programming knowledge** in R Studio, C and Java

Fields of interest

- Neuroscience, Graph Theory, Network Science, Data modeling, Bioengineering, Biomedical Engineering and Signal Processing.
- Machine Learning, Data Science & Data Visualization
- Electrical Systems, Machineries and Devices, Automatic Control Systems

Hobbies

- Football, Basketball, Swimming, Bicycling, Reading scientific books & writing articles on Medium.com (`https://seralouk.medium.com/`)