Serafeim Loukas

Data Scientist

Nationality: *Greek*
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Short Bio

Your engineer and data scientist specialist with international background and strong interest and knowledge in Machine Learning, Data Science & Visualization, and Statistics.

Professional Experience

Jun 2021–Present **Research Scientist** University of Geneva **&** University Hospital of Bern, Switzerland.

- Employing Machine Learning, Data Science and Data Visualization methods for research projects.
- Performing statistical and quantitative analysis using Python & MATLAB to answer scientific questions.

May 2020–Present **Data Science Writer** Medium Corporation, https://seralouk.medium.com/

- Mastered written communication by delivering 25+ high-quality scientific articles about well-known machine learning topics & algorithms.
- Utilized exceptional writing, editing and proofreading skills to produce engaging and error-free content for 25+ articles.

Jun 2017–May 2021 **PhD Research Scientist** Swiss Federal Institute of Technology of Lausanne & University of Geneva, Switzerland.

- Mastered Machine Learning, Data Science & Visualization, Statistics, Network Science, Graph Theory and programming in Python & MATLAB by successfully completing 6+ research projects.
- Supported research by creating statistical frameworks to answer scientific questions producing 6+ concrete project outcomes.
- Performed statistical and quantitative analysis for 4 years using Python & MATLAB.
- Developed exceptional scientific writing and communication skills by preparing reports and presentations for conferences. Developed strong sense of teamwork by collaborating on various projects.

Jun 2017–May 2021 **Teaching Assistant** Master courses: Image Processing I, Image Processing II, Signal processing for brain imaging. Swiss Federal Institute of Technology of Lausanne, Switzerland.

- Created the lab exercises and used repetition, which enabled the students to grasp new mathematical concepts quickly.
- Developed strong management and collaboration skills by managing student learning objectives through personalized assistance & assignments for 4 consecutive years.

Jun 2017–May 2021 **Ambassador of the E3** Excellence in Engineering Summer internship program. Swiss Federal Institute of Technology of Lausanne, Switzerland.

- Developed strong communication and management skills by establishing contact with students worldwide to promote the E3 Program, as a selected ambassador.

Education

Feb 2017–May 2021 **Doctor of Science (PhD) in Electrical Engineering** Swiss Federal Institute of Technology Lausanne & University of Geneva, Switzerland.
- Dissertation: "Methods for functional connectivity and morphometry in neonatal neuroimaging to study neurodevelopment".
- Keywords: Network science, Machine Learning, Signal Processing, Python.

Sep 2015–Feb 2017 **Master in Neuroscience (M.Sc.)** University of Geneva, Switzerland.
- Thesis: "Effective connectivity analysis of brain networks in preterm infants".
- Keywords: Brain networks, Signal Processing, Big Data, MATLAB.

Sep 2010–July 2015 **Diploma in Electrical and Computer Engineering** 5 years program, integrated master (300 ECTS), National Technical University of Athens, Greece.
- Thesis: "Analysis of biochemical phenotypes of the carotid atherosclerosis: Correlations with image-based and clinical indicators using clustering methods".
- Keywords: Clustering, Unsupervised Learning

Sep 2007–June 2010 **General Lyceum Certificate** Aristotelian General Lyceum, Corinth, Greece
-Participation to the Panhellenic Exams 2009-2010, (19.242/20.000 points).

Awards and Distinctions

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

Skills & Industry Knowledge

- **Industry Knowledge**: Data Science, Data Analytics, Data Visualization, Machine Learning, Statistical learning, Statistics & Probability, Research, Quantitative Analysis
- **Interpersonal Skills**: Communication, Collaboration, Teamwork, Critical thinking, Problem-solving, Supervision, Flexibility
- **Microsoft Office**: Excel™, Word™, PowerPoint™, Access™, Outlook™, Teams
- **Web browsers**: Internet Explorer, Mozilla Firefox, Google Chrome, Safari, Opera
- **Programming knowledge:** Python, MATLAB, SQL, Bash (Unix shell), R Studio

Foreign Languages

Greek	**Native**
English	**Proficient User**
French	**Intermediate User**

Selected Publications & Presentations

Journal Papers

- **Loukas, S.***, Lordier, L.*, Meskaldij, D.-E., Filippa, M., Sa de Almeida, J., Van De Ville, D., Hüppi, P.S., 2021. Musical memories in newborns: A resting-state functional connectivity study. Human Brain Mapping 1-18 **DOI**: `https://doi.org/10.1002/hbm.25677`
- **Loukas, S.***, Lordier, L.*, et al., 2019. Music processing in preterm and full-term newborns: A psychophysiological interaction (PPI) approach in neonatal fMRI. NeuroImage 185, 857–864. **DOI**:10.1016/j.neuroimage.2018.03.078
- Gui, L., **Loukas, S.***, et al., 2019. Longitudinal study of neonatal brain tissue volumes in preterm infants and their ability to predict neurodevelopmental outcome. NeuroImage 185, 728–741. **DOI**:10.1016/j.neuroimage.2018.06.034

Oral Presentations

- **Loukas, S., et al.** (2017). *"Music training enhances functional connectivity in preterm newborns"*, CIBM/BBL day 2017, Geneva, Switzerland
- **Loukas, S., et al.** (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

- **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, Montreal, Canada (https://index.mirasmart.com/ISMRM2020/PDFfiles/4588.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 (https://index.mirasmart.com/ISMRM2018/PDFfiles/5214.html).

Certifications

- *Certification of knowledge:* **MS Outlook**, **MS Access**, **MS Power Point**, **MS Excel**, **MS Word**
- *Certification of completion:* **Learning MATLAB** by Udemy (https://www.udemy.com/certificate/UC-Q2IYF22K)
- *Certification of completion:* **Python for Data Science Essential Training** by LinkedIn (https://tinyurl.com/8w537rpc)
- *Certification of completion:* **Python, ranking in the Top 10%** by TestDome (https://tinyurl.com/7kxbbjvf)
- *Certification of completion:* **Insights on Data Science** by LinkedIn (https://tinyurl.com/7e4syy8m)
- *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)

Fields of Interest & Hobbies

- Machine Learning, Data Science, Data Visualization, Signal Processing, Programming, Electrical Systems.
- *Hobbies*: Chess, Skiing, Writing articles on Medium.

References

- Upon request