Xandru Mifsud

Curriculum Vitae

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Education

2018–2022	**B.Sc. (Hons) in Mathematics & Computer Science**, *University of Malta*, Majoring in mathematics, predicted first class honours with an 89% grade average.
2014–2016	**MATSEC Matriculation Certificate**, *St. Aloysious' College Sixth Form*, ADVANCED: Pure Mathematics (A), Computing (A). INTERMEDIATE: Physics (A), Philosophy (A), English (B), Systems of Knowledge (B).
2009–2014	**Secondary Education**, *St. Augustine College*, 7 MATSEC O Levels and 4 IGCSEs with grades A–B.

Research Interests

○ **Spectral and Algebraic Graph Theory**
Vertex valuations, partitioning of the vertex set into equivalence classes.
○ **Hamiltonian Paths and their Existence**
Vertex transitivity, relations with Computer Science *eg.* 3–SAT and TSP.

Research Experience

2021	**CERN Summer Intern**, (Accepted, due to start in July 2021).
2018–2019	**Research Support Assistant**, Department of Mathematics, University of Malta, under the supervision of Prof. Irene Sciriha.

○ RESEARCH AREAS: Graph Spectra, Networks and Electrical Conductivity in Nano–Structures.

Professional Experience

2019–2020	**Software Developer**, *IO Labs*.

○ Various applications of machine learning techniques, for embedded systems. In collaboration with Prof. Kristian Zarb Adami and Dr. Alessio Magro.

2018–2019	**Intern Statistician**, *National Statistics Office, Malta*.

○ Within the Methodology and Quality Unit.

2017–2018	**Software Developer**, *Ascent Software*.

○ Working on the Square Kilometre Array project with the University of Oxford and the Institute of Space Science and Astronomy (University of Malta); implementing ETL flows using SAP Data Services and PL-SQL.

Publications

○ Mifsud X., "λ–Core distance partitions", *Linear Algebra Appl.* (2021), https://doi.org/10.1016/j.laa.2020.12.012
○ Sciriha I., Mifsud X., Borg J., "Nullspace vertex partition in graphs", *J. Comb. Optim.* (2020), https://doi.org/10.1007/s10878-020-00624-x

Honors & Awards

- Faculty of Science Dean's Award for Academic Excellence, 2016.

Talks and Presentations

2019 **Combinatorics and Graph Theory Seminar**, *University of Malta*.
- TITLE: Nullity Relations on Graphs with Independent Core Vertices.

Skills

Programming Languages.
- Python, Java, C, Haskell, Mathematica, LaTeX
- GitHub: https://github.com/xmif1/

Operating Systems.
- Linux (Ubuntu), mac OS