Xandru Mifsud

Curriculum Vitae

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'Speak only when it improves upon Silence'
– Zen Buddhist saying

Education

2018–2022 **B.Sc. (Hons) in Mathematics & Computer Science**, *University of Malta*.

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

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 and Its Applications* (2020), *Accepted – To Appear*. Pre–print at: https://arxiv.org/pdf/2012.04020.pdf
- Sciriha I., Mifsud X., Borg J., "Nullspace vertex partition in graphs", *Journal of Combinatorial Optimization* (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