Muyan Jiang

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Education

New York University, Abu Dhabi — Abu Dhabi, UAE

Bachelor of Science in Mathematics, Computer Science — GPA: 4.0/4.0 — *Aug. 2018 – May 2022*

Relevant Courses: Scientific Computing, Deep Learning, Advanced Stats, Topology, NLP, Algo for Data Sci, SWE

Internships and Research

Microsoft's Software Technology Center of Asia — June 2021 – Aug. 2021

Software Engineering Intern — *Suzhou, China*

- Developed a sport news multilabeling model for Bing's downstream ranking system, for use during Tokyo Olympics, using graphical knowledge databases and structured neural networks with 100ms latency and 90%+ accuracy

Covid-19 Epidemiological Research — May 2020 – Apr. 2021

Researcher — *Abu Dhabi, UAE*

- Simulated COVID-19 pandemic using the SEIR-model to suggest an optimal policy for schools to balance trade-offs between in-person classes and the spread of the virus, with tools from Mathematica and MatLab
- Published a paper in *Scientific Report* on the eluding effect of school opening that mathematically explained the ambiguous role of school opening policy during the COVID-19 outbreak and the existence of a phase transition

Covid-19 Literature Classification with Termolator — Dec. 2020 – May 2021

Researcher — *Abu Dhabi, UAE*

- Developed a tailoring COVID-19 document classification algorithm with a novel termolator technique and boosted F1 Micro measure to 80% with SVC on squared hinge loss
- Published and presented report at the 2021 IEEE MIT Undergraduate Research Technology Conference

Matrix Analysis — May 2020 – Present

Researcher — *Abu Dhabi,UAE*

- Computed numerical range generating polynomial for low-dimensional reciprocal matrices with Mathematica
- Discovered criteria of ellipticity of low-dimensional reciprocal matrices via the computation of Kippenhahn curve
- Presented "Kippenhahn Curve of Some Reciprocal Matrices" at AMS/MAA's 2021 Joint Mathematics Meeting and published a paper in *Special Matrices*

Lie Algebra — Jan. 2019 – Apr. 2020

Summer Undergraduate Researcher — *Abu Dhabi, UAE*

- Studied double extensions of restricted Hamiltonian Lie superalgebras preserving the non-degenerate closed 2-forms in characteristic p with non-constant coefficients with a forthcoming report
- Computed filtered deforms of exceptional (Skryabin) modular Lie algebras over algebraically closed fields of characteristic 3 in the restricted case, using "SuperLie" package from Mathematica and Python.

Projects

China-Gulf Forum: Opportunities and Challenges — Jan. 2019 – Present

Co-founder — *UAE/China*

- Founded the first student-organized multidisciplinary conference in the UAE that aims to address the changing multilateral relationship between China and the Gulf region
- Hosted annual forums for three years and invited international and local leaders including former UN special representative Bernardino León, and Chairwoman of UAE COVID-19 Management Committee Nawal Al Kaabi

Aunties Assemble — Sept. 2020 – Jan. 2021

Project Manager / Developer — *Abu Dhabi, UAE*

- Developed and tested a peer-to-peer public food ordering platform for unemployed expats in the MENA area
- Implemented back end database with MongoDB Atlas, front end with JavaScript, HTML, and CSS

Publications and Prizes

M. Jiang and I. M. Spitkovsky, "On some reciprocal matrices with elliptical components of their kippenhahn curves," *Special Matrices*, vol. 10, no. 1, pp. 117–130, 2022

M. Jiang, R. Fan, and O. Hussein, "Document classification with termolator for covid-19 literature," in *2021 IEEE MIT Undergraduate Research Technology Conference (URTC)*, pp. 1–5, 2021

A. Gandolfi, A. Aspri, E. Beretta, K. Jamshad, and **M. Jiang**, "A new threshold reveals the uncertainty about the effect of school opening on diffusion of covid-19," *Scientific Reports*, vol. 12, p. 3012, Feb 2022

Honourable Mention – 2020, 2019 International Mathematics Competition in Bulgaria

Technical Skills

Languages: Python, C/C++, C#, Scope, JavaScript, HTML/CSS, Mathematica, MatLab

Developer Tools: Google Cloud Platform, VS Code, Jupyter Notebooks, PySpark

Libraries: Pytorch, Keras, pandas, scipy, sklearn, NLTK, BeautifulSoup, seaborn