Kishore Basu

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Self-drive and motivated individual with high degree of mathematical, statistical, and computational literacy. Experience in numerical methods, differential equations, stochastic processes and algorithms

EDUCATION

Western University — **London, ON**

Honors Bachelors of Science in Applied Mathematics, Western Scholars Program — expected 2022

- 4.00/4.00 GPA

WORK EXPERIENCE

Department of Mathematics, Courant Institute of Mathematical Sciences, New York Univ. — **New York, NY**

AM-SURE Summer Intern — Summer 2021

- Worked with Prof. Aleksandar Donev under a National Science Foundation (NSF) grant to implement reaction-diffusion models for the cross-linking of actin gels as part of the Research Group in Modeling and Simulation
- Used the theory of stochastic modeling and stochastic processes to build a model of the cell cytoskeleton
- Engaged in daily meetings with other students to collaborate on research problems and presented to faculty

Department of Applied Mathematics, Western Univ. — **London, ON**

USRI Summer Intern — Summer 2020

- Worked with Prof. David Jeffrey to develop an algorithm in the computer algebra software Maple
- Algorithm to update the Simplify/Lambert W function has been added to the Maple 2021 release
- Collaborated with a team at the company Maplesoft to produce code consistent with standard guidelines
- Published a paper detailing this algorithm in 2021, with work presented at Maple 2020 and SYNASC 2020 (Symbolic and Numeric Algorithms for Scientific Computing) conferences

Department of Medical Biophysics, Western Univ. — **London, ON**

Research Intern — May 2018 – Present

- Worked with Dr. Lena Palaniyappan to perform a meta-analysis on impacts of cannabis and schizophrenia on white matter integrity
- Ran a multimodal analysis on large data sets that found correlated white matter damage in the corpus callosum between cannabis users and schizophrenia patients
- Poster presented in 2019 at SIRS conference in Orlando, Florida, and at Academic Research Day in London, Ontario

SCHOLARSHIPS AND AWARDS

Robert and Ruth Lumsden Scholarship – to five top students in the Faculty of Science per yr — September, 2021

Albert O. Jeffrey Scholarship – to one top student studying applied math per yr — May, 2020 & May, 2021

Jake Greydanus Scholarship – for highest mark among 1500+ calculus students per yr — May, 2020

Undergraduate Summer Research Internship Award (USRI) – research award granted by Western — May, 2020

Undergraduate Summer Research Award (NSERC) – research award granted by the Canadian gov't — May, 2019

ACTIVITIES AND INTERESTS

Model United Nations — **London, ON**

Currently Director of Finance & Delegate — Sept 2020 – Present

Science Student Council — **London, ON**

Member of Student Council — Sept 2020 – April 2021

REFEREED PUBLICATION

Ayoub T.J., Basu K., Jeffrey D.J. (2021) Bernoulli's Problem $x^y = y^x$ and Maple. In: Corless R.M., Gerhard J., Kotsireas I.S. (eds) Maple in Mathematics Education and Research. MC 2020. Communications in Computer and Information Science, vol 1414. *Springer, Cham*. https://doi.org/10.1007/978-3-030-81698-8_5

Computer Skills: C++, C, Excel, Fortran, Java, LaTeX, Maple, Matlab, PowerPoint, Python, R, Word

Other Interests: Guitar, Hiking, Racquet Sports, Travel (UK, India, South Korea, Thailand), Reading