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Emma Knight

She/Her

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I'm looking to move into a field with more real-world applications. I'm interested in applying problem-solving skills, as well as my coding and mathematical experiences, to problems that affect real people. I have begun to take a keen interest in mathematical modelling. I have also begun to learn more about financial math and the stochastic calculus that underlies it.

SKILLS

Tools and Languages Python, Java, \LaTeX , SageMath

WORK EXPERIENCE

Mentorship **March 2022 — Present**
I engaged in a mentorship under [Dr. Hany M. Farag](#) from CIBC, in the form of collaborative research on forecasting models across many asset classes, with a focus on foreign exchanges.

Postdoctoral Fellow, **July 2020 — Present**
University of Waterloo *Waterloo, ON*
My role at the University of Waterloo is to do teaching and mathematical research for the two years that I'm here.

Postdoctoral Fellow **July 2017 — June 2020**
University of Toronto *Toronto, ON*
My role at the University of Toronto was to do teaching and mathematical research for the three years I was there.

Visiting Scholar **September 2016 — June 2017**
Max Planck Institut für Mathematik *Bonn, Germany*

EDUCATION

Doctorate of Philosophy in Mathematics, *Harvard University* June 2017
Bachelor of Arts in Mathematics, *Princeton University* June 2012

ASSORTED LINKS

Research and Teaching

[Here](#) is a site that has all my research and teaching experience.

Coding

[Here](#) is a link to my GitHub profile, which has a lot of my modelling code available.

ACTIVITIES

FiveThirtyEight's Riddler Spring 2020- Present

Every week, FiveThirtyEight produces a Riddler: a math problem that is sometimes close to competition math problems and sometimes more about statistics and modelling. I have been solving these with some amount of consistency since the spring of 2020, and have been uploading my solutions [here](#).

Hart House Bridge Club: Assistant Director Spring 2019 - Present

I have been the assistant director at Hart House Bridge Club for a few years. This has consisted of helping to run games (and running games solo when the main director is out), as well as helping out with other administrative issues that arise with running a club. The past couple of years I have also been running some online games for other bridge clubs in the Toronto area, namely Toronto Bridge and Lee's Bridge Club.

PROMYS: Second Year Labs coordinator Summer 2014, 2015

I coordinated the second year labs for PROMYS, a summer math program at Boston University. These were open ended projects where high school students who were returning to the program got to solve problems (some open) posed to them by research mathematicians.

PUMaC: Problem Tzar 2008-2011

PUMaC, or the Princeton University Mathematics Competition, is a math competition organized by Princeton undergraduate students and held for high school students. I was responsible for making sure that there were tests for the students to take and coordinating the grading.