

Numa Karolinski

Education

(American/French)

2015 – 2020 **Bachelor of Science, Physics**
Bachelor of Science, Computer Science
McGill University, Montréal (QC), Canada.

- Physics provides analytic problem-solving skills and an understanding of nature, while computer science advances logical reasoning as well as yielding practical and marketable applications.
- Honours thesis: Analytic & numerical solutions to the inverse problem of exoplanet albedo maps.
- **McGill Space Group (MSG)** payload subteam leader, and website developer.

Work Experience

May – August 2020 **iREx Summer Internship & MSI Summer Student Program**
Home, (Dalkeith, Canada).

- (16 weeks)
- Continued senior year honours research thesis on exoplanet analytic reflected lightcurves.
 - Optimized *Python* program *QEARL*; compared *QEARL* to programs *starry* & *exocartographer*.
 - Researched under the supervision of Prof. Nicolas Cowan (McGill University).

May – August 2019 **Summer Undergraduate Research Position**
Canadian Institute for Theoretical Astrophysics, (Toronto, Canada).

- (16 weeks)
- Coded in *Python* a software that automatically generates gravitational microlensing amplification curves and mass distributions, and developed a black hole discovery methodology.
 - Researched under the supervision of Dr. Wei Zhu, with a lot of independence.

May – July 2018 **Independent Web Development**
Home, (Rennes, France).

- (3 months)
- Gained experience with *ReactJS*, *CSS*, *Git*, *SASS*, *GitHub Pages*, and *Webpack*.
 - Experimented with animations, OO web development, and from-scratch website creation.

May – August 2017 **Dishwasher & Food Preparation**
Pizzeria No. 900 Napolitaine, (Montréal, Canada).

(4 months)

Publications / Awards

Publications *Detecting isolated stellar-mass black holes in the absence of microlensing parallax effect.*
Numa Karolinski, Dr. Wei Zhu. *MNRAS: Letters*, Volume 498, Issue 1, Oct. 2020.

Awards 2020 TEPS CREATE Program Funding, Rubin Gruber SURF Recipient.
2019 CITA NSERC Undergraduate Summer Research Award (rejected).

Computer / Software Skills

Programming *Python, C, JS, HTML, CSS, ReactJS, Bash, Java, SQL, MATLAB, OCaml, JQuery*
Miscellaneous *SciKitLearn, TensorFlow Keras, L^AT_EX, Git, GIMP 2, UML, MS Office*

Languages / Background

Language English (Native), French (Intermediate)
Countries of Residence: United States, France, and Canada [present, PGWP]

Volunteer National Honor Society Volunteer (Various Activities), Introductory Python Lecturer,
ED&I Undergraduate Committee Climate Survey Taskforce Team

Interests Running, Piano & Violin, Astrophysics & Cosmology, and Competitive Video Games

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