

# 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

Aug – Now **Independent Full Stack Developer**  
2020 – 2021 *Home, (Dalkeith, Canada).*

- (indefinite)
- Working on a full stack intelligent automated [schedule manager](#).
  - Includes a Python/Django/SQL backend and a React.js/Bootstrap/Webpack/Redux frontend.

May – Aug **iREx Summer Internship & MSI Summer Student Program**  
2020 *Remote, (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 – Aug **Summer Undergraduate Research Position**  
2019 *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 – Jul **Independent Web Development**  
2018 *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.

## 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

**Languages** *Python, (Postgre)SQL, C/C++, Bash, Java, JS, HTML, CSS/SASS, MATLAB*

**Libs./Other** *SciKitLearn, TensorFlow Keras, React.js, Django, Git(hub), UML, Docker, 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

21520 Laggan-Glenelg Road – Dalkeith, ON Canada, K0B 1E0

☎ +1 520-342-8469 • ✉ [numa.karolinski@mail.mcgill.ca](mailto:numa.karolinski@mail.mcgill.ca)

in [numa-karolinski-5a0a861b5](#) • 🌐 [NumaKarolinski](#) • [Personal Website](#)