# Mathieu Foucher

*Seeking a position in software development where I can contribute my mathematical knowledge and skills.*

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## PROFESSIONAL SKILL SET

- ✔ Mentorship & Training
- ✔ Applied Mathematics
- ✔ Mathematical Modeling
- ✔ Algebra | Computer Science

- ✔ Data Visualization | Real & Complex Analysis
- ✔ Algorithm Analysis & Data Structures
- ✔ Pure Mathematics | Data Science | Topology
- ✔ Java Script | Flask | OmniDB | HTML | Linux VMs

- ✔ C++11 | Python 3
- ✔ Power Bi | Git
- ✔ LaTex | Overleaf
- ✔ Wolfram | JUCE

*- Citizenship: U.S., French, Canadian.-*

## EDUCATION

### *Bachelor of Arts – Mathematics* | University of Colorado at Boulder (2021; Dean's List)

Quantitative Reasoning & Mathematical Skills | Discrete Mathematics
Data & Models | Advanced Linear Algebra | Ordinary Differential Equations | Calculus 1, 2 & 3
History of Mathematical Ideas | Intermediate Numerical Analysis | Abstract Algebra 1 & 2

## PROFESSIONAL EXPERIENCE

### *NagraStar* – Englewood, CO – Software Development Intern (2021)

- Worked with agile methodology as part of a team of full-stack developers. Tasks accomplished were adding numerous features to the LGGIR application.
  - Utilized JIRA for organizing work using sprints.
- Developed HTML pages and UIs for software using Ajax (Java Script) and Flask (Python 3) for LGGIR.
  - Used OmniDB for backend database management.
- Wrote scripts for populating tables & pages written with JINJA.
  - Fixed an outstanding amount of bugs within existing software.
  - Used VS Code and Eclipse as IDEs for writing and debugging software.

### *University of Colorado at Boulder* – Algebraic Geometry Summer Research (2020)

- Relied upon to execute Python/PyGraph techniques/code within short deadlines, record processes for peers to easily use coding, reviewed documentation, and collaborated with team to determine optimal licensing
- Developed graphical representation of Tropical Moduli Spaces for application in algebraic geometry for research Utilized Python/associated libraries to extract relevant information and produce large-scale visualizations, streamlining entire procedure and eliminating hand-drawn/manual processes

### *University of Colorado at Boulder* – Learning Asst. Mentor (2019) | Math Learning Asst. (2018-2019)

- Responsible for collecting mentee feedback and evaluating responses to identify areas for improvements regarding both Learning Assistants and students
- Monitored staff during daily operations and coordinated with leadership in weekly decision-making meetings ○ Confirmed student/assistant chemistry and developed strategies to improve relationships/re-assign staff
- Functioned as one-on-one tutor, assisting underperforming individuals with complex coursework (Calculus 1-3) ○ Ensured learning aid content aligned with course curriculum/syllabus and guided students towards comprehension of mathematical assignments aimed at earning passing grades
- Served as advisor for 10 new Learning Assistants, performed training/coaching during daily activities, and ensured new staff members received all necessary resources to facilitate progression of mentees
- Exceeded all expectations by successfully coaching second-highest number of mentors; delivered high-quality and student-centered services focused on promoting educational development

### *Institute for Research & Coordination of Acoustics/Music* (IRCAM) – Paris, France (2019)

- Enrolled in music program focused on application of innovative technology (MAX/MSP) to facilitate and streamline audio synthesis processes
- Gained invaluable knowledge of audio plugins and synthesizers, creating fully functional drum machine in MAX/MSP
- Enabled transformation of musical samples into actual instrumentation, which could eliminate costly and time consuming sampled sound clearance process in real production environments

### *NagraStar* – Englewood, CO - Evidence Analyst Intern (2018)

- Organized vital information related to satellite signal piracy; managed incoming data and collected crucial evidence; deployed database of all potential pirate events and individuals performing illegal piracy activities ○ Designed template for standardization of court data/evidence presentation and distributed settlement documents to individuals participating in satellite signal piracy violations; located 200+ perpetrators in 8 weeks.