



Mathieu Foucher

Mathematical Statistics | Probability Theory | Differential Equations | Numerical Analysis | Research
Seeking a position in software development where I can contribute my mathematical knowledge and skills.

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PROFESSIONAL SKILL SET

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|------------------------------|---|--------------------|
| ✓ Mentorship & Training | ✓ Data Visualization Real & Complex Analysis | ✓ C++11 Python 3 |
| ✓ Applied Mathematics | ✓ Algorithm Analysis & Data Structures | ✓ Power Bi Git |
| ✓ Mathematical Modeling | ✓ Pure Mathematics Data Science Topology | ✓ LaTeX Overleaf |
| ✓ Algebra Computer Science | ✓ Java Script Flask OmniDB HTML Linux VMs | ✓ Wolfram JUCE |

- Bilingual English/French -

EDUCATION

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

Relevant Coursework: 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 over 20 features to a proprietary web application.
 - Utilized JIRA for organizing work using sprints.
- Developed HTML pages and UIs for software using Ajax (Java Script) and Flask (Python 3).
 - Wrote scripts for populating tables & pages written with JINJA.
 - Fixed over 23 bugs within existing 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