Sacha Perry-Fagant

ACADEMIC PROJECTS/COMPETITION

- **Master's Thesis, Niels Bohr Institute (2019-2020)**
  - Master's degree in quantum physics, specializing in high energy physics and cosmology
  - Thesis: Myers-Perry Black Holes as Blackfolds
  - Energy momentum tensor: linearized gravity, Brown-York
  - Applied the blackfold approach to Myers-Perry black holes
  - Higher order perturbative corrections of black brane metric
- **Undergraduate Research Project McGill (2017)**
  - Performed data analysis on brightest cluster galaxies to investigate the relationship between the magnitude gap and redshift of a cluster
  - Python was used to classify the galaxies, carry out calculations, and plot the results.
- **McHacks (2018)**
  - Won second place in a competition using machine learning (neural network) to classify data
  - Used OpenCV to process images and detect shapes
- **McGill Physics Hackathon (2017)**
  - Created an online application to allow visualization of electric and magnetic field lines
  - Used Flask microframework to connect Python backend and JavaScript frontend
- **Machine Learning Project (2017)**
  - Worked on language/image processing and classification
  - Used Python to employ k nearest neighbors, neural networks, naive bayes
- **Ubisoft Game Lab (2016) and McGame Jam (2017)**
  - Used C# to create games using the Unity game engine.
  - Collaborated with 1 and 5 people

EMPLOYMENT

- **Smallbrooks – Software Developer (November 2018-Present)**
- Working on Smallbrooks crowdfunding platform as a service
- Scala, Java, JavaScript, React, SQL, Elm, GraphQL
- Full stack development
- Object oriented and functional programming
- **Jonar – Software Developer (March-August 2018)**
- Worked on Paragon ERP: cloud-based ERP software
- JavaScript frontend and backend
- Agile development using Scrum
- Researching of prototype software
- **Distributed Digital Music Archives and Libraries- Software Developer (May-December 2017)**
- Worked on an online application that allows users to automatically classify symbols.
- JavaScript frontend and Python backend
- Django, Ajax, jQuery

SKILLS

Computer

Proficient
- Python
- C#
- Java
- Scala
- Latex
- Mathematica
- Adobe Premiere Pro
- Web development (React, Html, Javascript, Elm)
- MS Office Suite (Word, Excel, etc)

Intermediate
- Machine Learning
- SQL
- C
- Functional Programming
- Bash
- MIPS
- MATLAB
- Adobe Photoshop
- Adobe After Effects

Performance
- Public Speaking
- Theatre Performance
- Classical Musical Performance
- Choir

EDUCATION AND AWARDS

- University of Copenhagen Masters in Quantum Physics (GPA:3.81/4) (2018-2020)
- McGill Bachelor of Physics and Computer Science (GPA:3.54/4) (2013-2017)
- Kyoto KUINEP Exchange (Spring 2016)
- Bar Service (2016)
- PAL Canadian Firearms Safety Course

HOBBIES

- Film Making/Editing
  - CanWEA Friends of Wind- Most creative submission (2016)
- Programming
  - Development of apps for use at private events
- Voice/Performance
  - Københavns Bachkor (Nov 2019 – Present)
  - Les Muses Chorale Choir (2013-2018)
  - SCRUM (Montréal Fringe Festival 2017)
  - Grade 7 Royal Conservatory Voice – First Class Honours (2013)
  - Advanced Rudiments Theory Exam – Distinction (2013)
  - SORMTA Award for Highest Grade 7 Voice Exam Mark
- Writing
  - Research papers
  - Software Documentation
  - Creative Writing

LANGUAGES

- English (Native)
- French (Intermediate)