

Johanan Idicula

forcepush.tech | GitHub:// [jidicula](#)
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EXPERIENCE

JUNIOR SOFTWARE DEVELOPER Precision Analytics

Sep 2019 – Dec 2019 | Montréal, QC

- Developed and enhanced customized data management, analysis, and visualization **Shiny** dashboards using **R** **Tidyverse** libraries for clients in the pharmaceutical and biotechnology sectors.

RESEARCH

UNDERGRADUATE RESEARCH ASSISTANT Biological and Active Materials Lab, McGill University

Oct 2015 – Sep 2019 | Montréal, QC

Worked with Professor Allen Ehrlicher on cell mechanics projects:

Probing the Mechanosensitivity of α -actinin-4 | github.com/jidicula/fluoratio | Python

- Analyzes and visualizes microscopy images using the **datetime**, **numpy**, **scikit-image**, and **seaborn** libraries.
- Achieved a $\frac{1}{N}$ runtime reduction using the Python3 **multiprocessing** library to parallelize the workflow using N idle processor cores.

Magnetic Microrheology | github.com/jidicula/magtrack | Python

- Worked with a Master's student to measure the material properties of cells using magnetic tweezers.
- Developed software to track objects in microscopy videos and load their positions into DataFrames for analysis and visualization.
- Integrated the **Trackpy**, **pandas**, **numpy**, **scikit-image**, and **seaborn** libraries into workflow.

Cell Monolayer Deformation Microscopy | Publication under review | MATLAB

- Quantifies and visualizes cell monolayer deformation from microscopy images.
- Cell Monolayer Deformation Microscopy – a new method to measure the planar mechanical properties of cell monolayers, 2020.

Amy A. Sutton, Clayton W. Molter, Ali Amini, **Johanan Idicula**, Max Furman, Pouria Tirgar, Yuanyuan Tao, Ajinkya Ghagre, Newsha Koushki, Adele Khavari, Allen J. Ehrlicher.

EDUCATION

MCGILL UNIVERSITY B.Sc. Anatomy and Cell Biology

May 2020 | Montréal, QC, Canada

TECH

LANGUAGES

Advanced Knowledge of:

Python • Java • MATLAB • Bash • C

Familiarity with:

\LaTeX • SQLite

R • MySQL

TOOLS

Git/GitHub • AWS • Debian GNU/Linux

Unix • macOS • TravisCI • HTML/CSS

Jira • Make • GDB • GNU gprof

GNU Emacs • Vim • GitHub Actions

CONCEPTS

Advanced Knowledge of:

Image Analysis • Computer Vision

Data Visualization • Asynchrony

Agile Development

Modular Programming

Familiarity with:

Multiprocessing • Data ETL

Automation • RESTful APIs

Machine Learning • Data Exploration

PROJECTS

CANARY Discord Bot | Python

Dec 2016 - Present | github.com/idoneam/Canary

- Founded and contributed to Canary, a McGill Discord chatbot.
- Wrote a feature that fetches current weather conditions and warnings from Environment Canada using the **Requests** and **Beautiful Soup** libraries.
- Wrote a feature that posts Métro service notifications using the **Requests** library and the Société de Transport de Montréal API.
- Enhanced build quality by reviewing contributors' patches to ensure elegant implementation and successful integration.
- Coordinated and delegated group efforts for bugfixes and 60 features by 17 contributors.

PRETINDER Proof of Concept for Tinder Exploit | Python

Dec 2016 - Present | github.com/jidicula/pretinder

- Exploited a Tinder RESTful API vulnerability to access premium features.
- Created a proof of concept using the **Requests** library to fetch and parse JSON responses for profile images hidden from non-Premium users, then compare them to profile images in the deck via **OpenCV** cross-correlation template matching.

LANGUAGES

ENGLISH

Native proficiency

FRENCH

Conversational and basic reading comprehension

EXTRACURRICULARS

DISCORD MODERATOR McGill Discord chat

2016–2019

- Built a social community for 200+ McGill students.
- Drafted rules of conduct to make the chat safe and enjoyable for all.

BASS CHORISTER | Church of St. John the Evangelist, Montréal, QC

2020–present

- Sings bass in an 8-voice choir specializing in ancient and classical choral music.

HOBBIES

- Cooking
- Biking
- Guitar
- Indoor Gardening
- Tech Blogging: forcepush.tech

REFERENCES

PROFESSOR ALLEN J. EHRLICHER

Associate Professor, Department of Bioengineering, McGill University

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