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
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