

# Johanan Idicula

Blog: [forcepush.tech](https://forcepush.tech) | GitHub:// [jidicula](https://github.com/jidicula) | LinkedIn:// [jidicula](https://linkedin.com/in/jidicula)  
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## EXPERIENCE

### SOFTWARE DEVELOPMENT CONSULTANT NeuroPoly, Université de Montréal

Aug 2020 — Present | Montréal, QC

- Developed and enhanced quantitative MRI shimming software ([github.com/shimming-toolbox/shimming-toolbox](https://github.com/shimming-toolbox/shimming-toolbox)).
- Led initiatives on architectural and project management decisions for software development.

### JUNIOR SOFTWARE DEVELOPER Precision Analytics

Sep 2019 — Dec 2019 | Montréal, QC

- Developed and enhanced customized data onboarding, 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 $\alpha$ -actinin-4 | [github.com/jidicula/fluoratio](https://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](https://github.com/jidicula/magtrack) | Python

- Worked with a Master's student to develop an advanced technique for measuring the material properties of cells.
- 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 reveals mechanical fragility of cell monolayers in the epithelial to mesenchymal transition, 2020.

Amy A. Sutton, Clayton W. Molter, Ali Amini, Johanan Idicula, Maxwell 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:

$\text{\LaTeX}$  • SQLite

R • MySQL

### TOOLS & LIBRARIES

Git/GitHub • AWS • Debian GNU/Linux  
Unix • macOS • Travis CI • HTML/CSS  
Jira • Make • GDB • GNU gprof  
GNU Emacs • Vim • GitHub Actions  
Docker • Pandas • OpenCV • Flask  
Requests • pytest • Poetry • Notion  
Streamlit • Jupyter Notebook • Sphinx

### 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](https://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.
- Mentored and onboarded junior members by inviting new feature ideas and assigning them tickets suitable for beginners.

### **PRETINDER** Proof of Concept for Tinder Exploit | Python

**Dec 2016 — Present** | [github.com/jidicula/pretinder](https://github.com/jidicula/pretinder)

- Exploited a Tinder RESTful API vulnerability to access premium features.
- Created a proof of concept using the **Requests** library to accept 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 fluency

### **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, inviting, and accepting 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](https://forcepush.tech)