

# 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 DEVELOPER** Digital HR, Department of National Defence, Government of Canada Oct 2020–Present | Remote

- Developing an applicant tracking system in **Django** used by over 1000 applicants and 300 managers ([civilian-careers-defence.canada.ca](https://civilian-careers-defence.canada.ca)).
- Leading team's move towards a pure **CI/CD** workflow with automated build, test, and code quality checks.
- Rotating Scrum Master for a team of 9 developers, 4 PMs, and 2 UI/UX designers.

### **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 architectural and project management decisions for software development.
- Migrated CI workflows from Travis CI to GitHub Actions for automated build and unit testing.

### **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.

# TECH

## LANGUAGES

**Advanced Knowledge of:**

Python • Bash • C

**Familiarity with:**

L<sup>A</sup>T<sub>E</sub>X • SQLite • R • MATLAB

MySQL • JavaScript • Java

## TOOLS & LIBRARIES

Git • AWS • Debian GNU/Linux • Unix  
macOS • Travis CI • HTML/CSS • Jira

Make • GDB • gprof • Emacs • Vim

GitHub Actions • Docker • Pandas

OpenCV • Flask • Requests • pytest

Poetry • Notion • Django • 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 2016–2020** | [github.com/idoneam/Canary](https://github.com/idaneam/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 code 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

## EDUCATION

### **MCGILL UNIVERSITY** B.Sc. Anatomy and Cell Biology

**May 2020** | Montréal, QC, Canada

## 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)