

# Johanan Idicula

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Developer Story: [stackoverflow.com/story/jidicula](https://stackoverflow.com/story/jidicula) | Stack Overflow: [bit.ly/jidicula-stackoverflow](https://bit.ly/jidicula-stackoverflow)  
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Agile Developer That Leaves No Team Member Behind

## EMPLOYMENT

**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 3000 applicants and 600 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 as well as autodeploy and autorelease workflows using **GitHub Actions**.
- Coaching a team of 9 developers and 2 UI/UX designers by filling a Scrum Master-like role: coordinating team's **self-organization**, helping team members resolve roadblocks, and encouraging team's **openness** and **continuous improvement**.
- **Git** Guru for team, sharing knowledge about best practices for rebasing, cherry-picking, history editing, and merge conflict resolution.

**SOFTWARE DEVELOPMENT CONSULTANT** NeuroPoly, Université de Montréal  
Aug 2020–Present | Montréal, QC

- Led architectural and project management decisions for development on shimming-toolbox, a **Python** tool for quantitative MRI data acquisition ([github.com/shimming-toolbox/shimming-toolbox](https://github.com/shimming-toolbox/shimming-toolbox)).
- Migrated CI workflows from **Travis CI** to **GitHub Actions** for automated build and unit testing.
- Currently providing code reviews and insight on technical decisions on a casual basis.

**JUNIOR SOFTWARE DEVELOPER** Precision Analytics  
Sep 2019–Dec 2019 | Montréal, QC

- Developed laboratory information management systems with 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 a novel technique for measuring the material properties of cells.
- Tracks objects in microscopy videos and loads 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.

# HOBBY PROJECTS

## **GAMCO-NAV-CHECK** Stock Value CLI Tool | Go, GitHub Actions

Mar 2021–Present | [github.com/jidicula/gamco-nav-check](https://github.com/jidicula/gamco-nav-check)

- Wrote a Go package ([github.com/jidicula/go-gamco](https://github.com/jidicula/go-gamco)) for wrapping GAMCO's API for their closed-end funds ([gabelli.com/funds/closed\\_ends](https://gabelli.com/funds/closed_ends)).
- Wrote a CLI tool using the above Go module to fetch latest net asset value of each GAMCO closed-end fund, compare it with the stock's latest price on Yahoo Finance, and output a list of funds with a NAV/Price difference of  $\geq 10\%$ .
- Created CI/CD automations for both repositories using GitHub Actions for running lint, unit, and build tests as well as autorelease workflows for publishing new versions of the modules to [pkg.go.dev](https://pkg.go.dev).

## **RANDOM-STANDUP** List Randomizer CLI Tool | Go, GitHub Actions

Mar 2021–Present | [github.com/jidicula/random-standup](https://github.com/jidicula/random-standup)

- Wrote a Go CLI tool for randomizing order of team updates in a standup.
- Created CI/CD automations using GitHub Actions for running lint, unit, and build tests as well as autorelease workflows for publishing new versions of the tool to [pkg.go.dev](https://pkg.go.dev).

## **CANARY** Discord Bot | Python

Dec 2016–2020 | [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 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.

# EDUCATION

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

May 2020 | Montréal, QC, Canada

# 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

Go

## **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