Johanan Idicula

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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 4500 managers.
- Leading team's move towards a pure **CI/CD** workflow with automated build, test, and code quality checks.
- Acting Scrum Master for a team of 9 developers, 2 PMs, and 1 UI/UX designer.

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).
- 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 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 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:
LaTeX • 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

- 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

- 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