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 (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).
- 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