**Tony Zeidan**
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# TONY ZEIDAN

## PROFILE

Tony Abou Zeidan holds a Bachelor's Degree of Engineering (Software) from Carleton University. Mr. Zeidan has completed four co-op terms with the Canadian Joint Operations Command and NAV Canada, and is looking to join a progressive organization where he can use his technical and communication skills and experience to help advance the organization's software development goals. Mr. Zeidan brings several skill-sets to bear including, but not limited to:

- Conceptual Knowledge
  - Software Development
  - Web Development
  - Cybersecurity
  - Data Science
  - Machine learning
- Programming Languages
  - Python
  - Java
  - C, C++
  - GoLang
  - HTML, CSS, JavaScript
  - Visual Basic
  - Databases: MySQL, SQLite, Oracle
- Frameworks
  - ReactJS
  - Python Flask
  - SpringBoot
  - Junit
- Tooling
  - NodeJS
  - Anaconda, Pip, PyPI
  - Pandas, Numpy
- Productivity
  - Office 365
  - JIRA
- Operating Systems
  - Windows
  - Linux
  - QNX
- Version Control Systems
  - Git/GitHub
  - Jazz Version Control System

## EXPERIENCE

**PROJECT # 3**
**November 2022 – January 2023 (3 months)**
**Primary Developer/Analyst**
*Canadian Joint Operations Command, Department of National Defence*
*GeoHexViz (Python)*

**Link**: https://github.com/mrempel/geohexviz

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- Python package for the generation of hexagonally binned geospatial visualizations.
- Extensive software documentation.
  - Created a journal submission for the software.
  - Made Sphinx generated code documentation.
- Made continuous integration tests using GitHub Actions.
- Packaged the project using setup tools and ensured correct installation through tests on various systems and environments using PHP and shell scripting
- **Responded to JOSS (see below) peer-review and fixed issues with installation and running code demos.**

**PROJECT # 2**
**April 2022 – September 2022 (6 months)**
**Surveillance Engineering Student**
*NAV Canada*

- Took part in an AGILE development team performing iteration planning, reviews, and regular meetings.
- Created a configurable installation-site specific installer for a React project using INNO Setup.
- Performed test cases for a wide range of applications and ensured that they met quality control standards.
- Performed code reviews for various software changes that were being merged into the codebase.
- Extended existing documentation to incorporate new and updated terminologies.
- Worked in an AGILE team charged with the development of systems for managing and distributing air traffic surveillance data.
- Attended daily scrums where we looked at tasks on the Kanban board and discussed our progress on those tasks.
- When tasks were competed they would go through a review and testing before being accepted.
  - Performed code reviews for changes pending merge.
  - Took on various testing tasks for changes.
- Worked with a system called SIN that ran on both QNX 6 and QNX 7 real-time operating systems.
  - Made a variety of small patches to the system including terminology changes.
- Worked with SIN called CAMP4 that provided GUI and controls for the SIN software.
  - Made a variety of configuration changes to CAMP4 and changes to the site-specific installer.
    - The installer was made using INNO setup script
- Developed the site-specific installer for the new control software called CAMP6 using INNO.
- Made terminology changes to documentation for the SIN software and went published them through the internal publication system.

**PROJECT # 1**
**February 2021 – February 2022 (13 months)**
**Developer/Analyst**
*Canadian Joint Operations Command, Department of National Defence*
*GeoHexViz*

- Developed a Python package for plotting geospatial hexagonally binned data.
- Extended the package with a script to make the process simple and repeatable.
- Presented the package at two independent seminars.
- Aided in the analysis for an aeronautical Search and Rescue study.
- Participated in and contributed to weekly team meetings / activities.
- Brainstormed with team members to discuss and select most-suitable designs.

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- Developed supporting documentation, including a reference document, sphinx documentation, and an external publication document.
- Participated in weekly CJOC meetings.
- Worked closely with my mentor.
- I was first tasked with generating hexagonally binned geospatial maps for a co-worker using Python.
- Upon demonstrating the power of Python for these maps, I was tasked with developing a Python package for creating these maps.
- Extended this package to include a script for users with little technological knowledge.
- I presented the project at two independent organization-wide seminars due to interest in the project.
- The package was used by my co-worker to develop maps that were placed in a DND scientific report (an aeronautical search and rescue study).
- During development I kept the code really-well documented.
- I was tasked with writing a DND reference document for the software which was then published internally.
  - https://cradpdf.drdc-rddc.gc.ca/PDFS/unc381/p814091_A1b.pdf
  - I met with my mentor many times throughout this process for peer-review.
- My mentor and I (very happy with the quality of the product) decided to submit the software to the Journal of Open Source Software (JOSS).
  - Currently in the peer-review phase, one reviewer said it should be allowed in the journal for sure.
  - https://joss.theoj.org/papers/c051df96dac973486cc312452575e804
  - The software is currently open-source and will stay that way if allowed into the journal.

## APPLIED PROJECTS – GitHub (*after-hours developmental projects*)

**Applied Project #5**
**September 2022 – Present (9 months)**
**Primary Developer, Team Lead**
*EVASE (Python Flask, React JavaScript)*

- This is a capstone project that is a prerequisite for graduation
- Software web-application for the security analysis of Python back-end code.
  - Detects potential SQL injection attack behaviours in Python back-end code.
- Front-end: React JS, Backend: Python Flask
- Developed with a team using AGILE methodology.
  - Weekly meetings with the supporting professor, many meetings with the team.
- Developed with client-server architecture.
- Designed and implemented the basic structures required for analysis.
- Participated in the design and development of the SQL injection vulnerability detection algorithm.
- Designed and developed the Password Guessing vulnerability detection algorithm.
- Designed and developed the prototype of the React front-end.
- Wrote many unit tests for the software testing various aspects of the backend of the system.

**Applied Project #4**
**January 2023 – May 2023 (5 months)**
**Primary Developer**
*Fake Amazon Bookstore (SpringBoot, JavaScript/JQuery, Thymeleaf)*

**Link:** https://github.com/tony-zeidan/fake-amazon-bookstore

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- Collaborated in a team using AGILE methodology to develop a SpringBoot/Thymeleaf/JavaScript application simulating an Amazon Bookstore.
- Implemented user functionality for browsing, adding, and removing books from a shopping cart, as well as checking out.
- Developed SpringBoot controllers and services, managing application logic and data flow.
- Created JavaScript and HTML components to enhance the user experience, enabling seamless cart interactions.
- Designed and implemented website CSS for an engaging and visually appealing user interface.
- Integrated Aspect Oriented Programming to log service function times, optimizing application performance.
- Assisted in the implementation of Circuit Breaker functionality to ensure system resilience and fault tolerance.
- Developed comprehensive integration tests, leveraging GitHub Actions for automated test execution and continuous integration.
- Diligently documented code with JavaDoc comments, ensuring readability and maintainability for fellow team members and future developers.

**Applied Project #3**
**January 2022 – July 2022 (7 months)**
**Primary Developer, Team Leader**
*Elevator Control System (Java)*

**Link:** https://github.com/tony-zeidan/SYSC3303_elevator_project

- Designed and assembled a program that simulates an elevator control system that uses the Shared Memory Model and UDP to send requests from one Thread to another.
- Developed an understanding of concurrency and concurrent processes working with and competing against one another.
- Used JIRA to facilitate the tasks of each team member and coordinate efforts.
- Developed unit tests for the code using the JUnit framework to ensure consistent output.
- Maintained Javadoc comments to make the source code clear and easy to understand.

**Applied Project #2**
**September 2020 – September 2021 (13 months)**
**Primary Developer**
*Ruby Bot (Java)*

**Link:** https://github.com/tony-zeidan/RubyBot

- Designed and assembled a Discord chat bot for the management of Discord chat servers.
- Used the API for Discord to allow the bot to subscribe to incoming messages and respond to them accordingly.
- Joined the Discord API community to seek help with using the API.
- Performed many manual tests in test discord servers and ensured correct operation.
- *Another project to come using Java and Spring Boot.*

**Applied Project #1**
**September 2019 – January 2020 (5 months)**
**Primary Developer, Team Leader**
*RISK Game (Java, Java Swing)*

**Link:** https://github.com/tony-zeidan/DreamTeam-Risk-SYSC3110

- Developed a Java Swing-based game inspired by the popular board game RISK as part of a school project.
- Designed and implemented the algorithms for the Artificial Intelligence (AI) players.
- Took responsibility for creating many aspects of the User Interface (UI), including the interactive map and stats panel.
- Documented all the functions and codebase using JavaDoc for better understanding and maintainability.
- Applied problem-solving skills to develop the game logic and to debug issues during development.
- Worked independently on the project, showing initiative and self-learning ability.

## EDUCATION

Bachelor of Engineering, Software (SYSC), Carleton University (Ottawa ON), May 2023
- Entrance Scholarship ($2000)
- **Record of Grades** - Tony Abou Zeidan(Software Engineering – SYSC)
  - Cumulative Grade Point Average: 11.05/12 (A)
  - Number of Academic (4 month) Terms Completed: 8
  - Co-op (4 Month) Work Terms Completed: 4

## VOLUNTEER/EXTRACURRICULAR EXPERIENCE

**March 2017 – April 2017 (2 months)**
**Coding Team Member**
*ECOO Coding Competition, Ottawa ON*
- Gathered with team members to practice for the competition using coding problems from previous years.
- Successfully competed to complete five difficult coding problems.