Cathal O'Callaghan

2nd Year Computer Science & Information Technology Student

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Personal Projects

News article web scraper
Python / Go

Wrote a scraper to gather news articles from a handful of websites daily for later data analysis. I plan on using this data set as an intro to NLP and some basic machine learning. Refactored the script into Go which improved runtime from 12 to an average of 2 seconds.

ZipTab chrome extension
Javascript

Developed a chrome extension to manage online browsing workspaces. The extension saves a snapshot of all active tabs for later use and syncs data across all chrome browsers that the user is logged into.

Using an OCR to cheat memory tests
Python

Combined Google's Tesseract OCR and python for a script capable of insanely high scores on an online verbal memory test. This script can beat any human score in 60 seconds

College Projects

Req - Real life based betting app
NodeJS / Python / Go / React

- Implemented complete user auth. system which included OAuth through Google. Github and Steam, password reset and email verification functionality. All passwords are checked against a DB of common leaked passwords to ensure our users have secure passwords.

- Acted as scrum master in our team's weekly sprints to coordinate our work. Liaised with our lecturer on the progress and presented a demo of the project.

- Incorporated my own news article scraper and other various scripts and APIs to gather data for automated bets to be used on the app.

- Implemented testing for our many API endpoints. Used fuzzing techniques to ensure our APIs were secure from malicious input. Used Travis CI to monitor the build state of our commits which guided us on what components broke as new features were added.

Achievements

Interview candidate for Google 2020 STEP internship

After being selected based on my outstanding Github, I attended a Google algorithms workshop event from which I was offered an interview for their summer STEP internship based on my performance. STEP is for 1st and 2nd year students pursuing a technical degree.

Volunteering

NUIG Compsoc
Ordinary committee member

I'm on the committee for the 2019/2020 NUIG Computer society. I help out with committee work and am learning a bit about the operation and maintenance of our servers on the side.

NUIG Drone society
Safety Officer

I am the 2019/2020 safety officer for the NUIG drone society. I help with the running of our events and am tasked with the safety of our members which is of paramount importance.

References

References available upon request

Summary

A motivated and diligent individual with a keen interest in the ever-expanding world of technology. Love the rewards that programming offers and its never-ending challenges that it has to offer. Focused on applying my programming knowledge to convert abstract, real world problems into programming based solutions.

Education

BSc Computer Science and Information Technology
NUI Galway

09/2018 - Ongoing   Graduating in 2022.
Achieved and maintaining a 1:1 grade level. A grades obtained in C programming, web development, database systems, discrete mathematics and Java programming.

Favorite Modules

Algorithms & Information Systems - Discrete Mathematics
C Programming - Software Engineering
Object Orientated Programming - Web Development
Database Systems - Networks & Data Communications

Publications

Tesseract & Python OCR Guide

Wrote a post for NUIG's Compsoc wiki page that taught beginners how to recreate my own project step by step.
https://bit.ly/37ogKsN

Language Experience

100% is my most well known language
Python

C

Javascript

Java

Go

Interests

Music

I am an avid techno fan. When not listening to techno I like to practice DJ'ing and occasionally upload my sets online.

Drones

Have built two custom quadcopters since I gained interest in the hobby and love everything that comes with the constant maintenance and flying of drones. I have learned more than I could've imagined from the electronics work that I've had to do after many crashes.