# Cavin Dsouza

**Software Development & Engineering ⬩ Python Object-Oriented Programming ⬩ Designing & Implementing Software Solutions**

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| Python Programming/Scripting  Process Automation & Optimization  Troubleshooting & Debugging Issues | Cross-Functional Collaboration  Technical Documentation  Customer Service Management | Python, C, C++, C#, R  Java, MATLAB, X++, ERP  Best Practices & Compliance |

## Technical Skills

**Web Design:** HTML, CSS, JavaScript, Bootstrap, jQuery, Flask, Django

**Databases:** Microsoft SQL Server, MySQL, PostgreSQL

**Tools:** Selenium, MS Visual Studio, Python IDE’s, Adobe Dreamweaver, Eclipse, Tableau

**Platforms:** Windows, Linux (Ubuntu)

**Certifications:** Python Developer (LinkedIn), The Complete Web Development Bootcamp, The Complete SQL Bootcamp, Intermediate Python for Data Science, MS Dynamics AX 2012 R3 CU8 Development Introduction

## Education

**MS in Computer Science, Indiana University Bloomington** May 2018

Courses: Algorithm Design, Artificial Intelligence, Advanced Operating Systems, Advanced Database Concepts

* [**Strassen’s Matrix Multiplication Algorithm**](https://github.com/CAVIND46016/Academic-Coursework/tree/master/Strassens%20Matrix%20Multiplication)**:** Carried out extensive Python coding and implemented Strassen’s multiplication algorithm to compare its time and complexity with naïve; identified Strassen’s multiplication provided efficient time analysis.
* [**Analyzing User Reviews on Yelp**](https://github.com/CAVIND46016/Yelp-Dataset-Analysis)**:** Analyze seasonal and cultural trends on the Yelp dataset; performed sentiment analysis on user reviews using AFINN word list and Liu Bing’s lexicon method; converted given JSON dataset into CSV file for preprocessing.
* Predicted ratings of reviews on a set of review texts using frequency-inverse document - frequency matrix, and achieved 66% accuracy using support vector machine classifier. Visualized complex dataset using Python libraries and Tableau.
* [**Social Media Non-Usage**](https://github.com/CAVIND46016/Web-Scraping)**:** Performed sentiment analysis, topic modeling using Python libraries to identify factors leading to Facebook abandonment; scraped 14-years data from sites such as ‘Schneier on Security’ and ‘BoingBoing’ using Beautiful Soup, Selenium web driver and automated data transfer to a PostgreSQL database.
* [**Folder Icon Changer**](https://github.com/CAVIND46016/Folder_Customization-Icons)**:** Automated icons application to movies’ folders through Python coding; created a GUI using the ‘tkinter’ module that accepts a directory and recursively walks and applies icons to all the sub-directories; the script gathers a finite set of images from Google and selects and applies an icon at random.
* [**Artificial Intelligence**](https://github.com/CAVIND46016/Academic-Coursework/tree/master/Artificial%20Intelligence)**:** Utilized A\* algorithm and Python programming to identify the shortest route from one place to another; carried out a 15-puzzle game simulation, N-Queens puzzle, prisoners’ dilemma, implemented MDP planning algorithm, implemented a Naïve Bayes classifier to predict the location of ‘tweets’ in a dataset and achieved 68% accuracy.
* **Web Scraping:** Expertise in scraping data from websites using Python’s beautifulsoup and selenium libraries. Downloaded several popular comics images and auto-converted them to a pdf all with the power of Python.
* **Website Development:** Built a responsive website for the Bloomington Cricket Club to maintain memberships and track match details. Used HTML 5, bootstrap, Angular JS for the front-end, and PostgreSQL and Node JS for the backend.

**BE in Electronics & Telecommunication Engineering, University of Mumbai** 2013

Courses: Computer Programming I, Computer Programming II, Image Processing

* **H.264 Video Error Concealment:** Implemented a spatiotemporal boundary matching algorithm using the Visual Studio IDE and C++ programming to hide errors distorting the video signal during transmission over digital links. Found outer boundary matching algorithm to be more accurate than boundary matching algorithm by comparing performances.

## Professional Experience

**Associate Instructor, Indiana University Bloomington** 01/2018 – 05/2018

Assisted the instructor in preparing course content for the course Data Science On-Ramp entailing Introduction to C++, Introduction to SQL, Basics of Java, Linear Algebra, Web Scraping and Kaggle cases. Responded to post-discussion questions and prepared quizzes and answered student queries.

**Assistant Manager, Godrej Infotech Ltd.** 01/2014 – 06/2016

Designed customized software solutions for several clients at this ERP company providing IT solutions to engineering and service areas.

* Designed an in-house scalable payroll product from scratch based on client’s country-specific regulations to facilitate streamlining and automation of the payment process; carried out thorough testing to fix bugs. The product achieved Microsoft Certification.
* Contributed to a technical white paper describing the upgraded aspects of the payroll product for clients’ reference.
* Saved thousands of labor hours by automating information entry of 400 thousand employees into an HR model for a client company; developed a code to read information from an Excel file.
* Designed functionalities and SSRS reports on trial balances, monthly timesheets, and invoices for projects using MS Dynamics AX. Trained offshore clients on using the ERP solution for workflow development and assignment of security rights.
* Developed an integration-based model for a client to automate processes like vendor, customer, invoice, and journal creation.

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