# Yahya M. Gilany

Software Application Developer
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## Education

**University of Cincinnati, Cincinnati, OH, USA** 2016-2018
Master of Science M.Sc., School of Information Technology.
**Concentration:** Networking and Infrastructure Track – Machine Learning.
- Awarded:
  - Dean's List 4.0 GPA (Spring 17, Fall 17, Spring 18)
  - Graduate Assistantship (Fall 16, Spring 17, Fall 17, Spring 18)
- Cumulative GPA: **3.974**

**University of Cincinnati, Cincinnati, OH, USA** 2015-2018
Bachelor of Science B.Sc., School of Information Technology.
**Concentration:** Information Technology, Software Application Development.
- Awarded:
  - UC Global Scholarship
  - Dean's List 4.0 GPA (Spring 16, Fall 16, Spring 17, Fall 18, Spring 18)
- Cumulative GPA: **3.985**

**Cairo University, Egypt** 2012 - 2015
Bachelor of Science B.S., Faculty of Engineering
**Concentration:** Aerospace and Aeronautics.
Transferred to the University of Cincinnati before the completion of the program

## Computer Skills

| | |
|---|---|
| **Programming Language:** | JavaScript, TypeScript, C#, SQL, Java, C/C++, Python, R, HTML5/CSS3, MatLab/Octave. |
| **Platforms, Frameworks, and Technologies:** | Node.js, Angular.js, Ionic, Xamarin, ASP.Net Core 2.0, Microsoft SQL Server, MySQL, PostgreSQL, NGINX, Docker, Kubernetes, D3.JS, Jekyll JQuery, Unity (Game Engine), SolidWorks (3D Modelling), LabVIEW. |
| **Operating Systems:** | Linux (Ubuntu, SUSE), Windows Server, macOS, Windows |
| **Photo and Video Editing:** | Photoshop, Premier. |

## Work Experiences

**UC Information Technology Solutions Center**

Web and Software Application Developer — Sept. 2015-Apr. 16
Fall 15: Part-time
Spring16: Part-time

- Architected a client-server software solution for a Fortune500 public retail enterprise.
- Developed a client-server software solution for a Fortune500 retail company responsible for data collection from over 700 business units.
- Designed and developed the database for the solution.
- Participated in client sessions and meetings including requirement gathering and demonstrations.
- Participated in the deployment sessions of the application to the client's servers.
- Wrote scripts using Node.js to setup, build, and auto-populate databases with testing data.

Software Development Team Lead — May. 16- Dec 17
Summer 16: Co-Op
Fall 16: Part-time /GA[1]
Spring 17: Part-time/GA
Summer 17: Co-Op

- Architected and designed a scalable microservice-based backend services and APIs for a large-scaled eco-system responsible for consuming, analyzing, and producing reports on large volumes of data for Fortune500 retail company.
- Designed and developed databases for the eco-system.
- Developed and implemented the backend services and APIs for the system

[1] GA: Graduate Assistant

using Node.js, Microsoft SQL Server, Redis, RabbitMQ, Docker, Microsoft R Services.
- Architected, designed and developed the frontend tools and services for the eco-system using Angular.js, Bootstrap, and Express.js.
- Lead a team of 4 developers working on multiple applications and aspects of the eco-system.
- Work independently with minimal supervision to ensure team members meet high quality standards and project deadlines.
- Lead project bi-daily standups to track progress and address architecture and development issues.
- Coordinated the work and efforts between our team and other development teams consuming the data from our eco-system.
- Participated in client sessions and demos including requirements gathering sessions and demonstrations.
- Presented the eco-system database design to the client's developers team.
- Managed and performed the deployments to the internal development and staging servers.
- Deployed the application to the client's production servers.
- Migrated the data and code of a large-scale software system used by state government agencies from using MongoDB, Express.js, and Node.js v6 to a newer versions and more modern stack of SQL-based database, Restify, and Node.js v8.
- Implemented Unit testing for the various components of the projects.
- Audited web applications for browser compatibility and wrote various scripts using Node.js and gulp task runner to transpile the code to comply with the most recent JavaScript standards, ECMA6, to a standard that is compatible with and supported by web browsers such as Chrome, Firefox, Safar, IE11, and Edge.
- Automated the audit of the front-end code for performance issues and correcting them by minifying and optimizing the web resources and assets (CSS and JavaScript) to boost the loading speed of the web applications.

Lead Developer Dec 17 - Apr. 18
Spring 18: Part-time/GA

- Lead the development teams for over seven large-scale projects at the ITSC.
- Represented the ITSC in requirement gathering sessions with various clients, including startup companies, government agencies from multiple states, and Fortune100 retail companies. The sessions include in-person, phone call, and web conferencing.
- Interviewed over 15 new hires for the ITSC co-op positions.
- Designed and built databases for new projects and solutions.
- Set-up DevOps environments and tools such as Continuous Integration/Continuous Deployment, CI/CD, (Drone.io), containerization and provisioning (Docker), error audit and logging (Sentry) for 10+ new projects, applications, and services.
- Researched and implemented software development best practices such as the agile iterative software development, and test-driven development, TDD.
- Implemented Unit testing for the various components of the projects.
- Trained new developers on best practices and technologies.
- Mentored developers throughout the life-cycle of the projects.
- Implemented a secure continuous development and continuous integration pipeline where the code gets tested before its deployment.
- Redesigned and restructured the source code's version control model increasing productivity and ensuring faster testing and delivery, and less merge mistakes in the production code.
- Reviewed code for 245+ merge requests from 20+ projects in a gross estimation of 300K lines of code.
- Wrote scripts using python to automatically convert Statement of Work documents into GitHub milestones and issues.
- Wrote scripts using Python to move GitHub issues from one project to another.
- Presented and published at multiple events, conferences, and journals.

# Research and Publications

**Conference Presentations and Proceedings**

Gilany, Y. & Said, H. (2018). Automated Reporting System for Funding and Grants for Juvenile Correction Programs. *University of Cincinnati IT Research Symposium.*

Kunapareddi, V., Gilany, Y. & Said, H. (2018). An Innovative Solution to Bridge Industry and Student Needs. *Ohio Higher Education Computing Conference.*

**Journal Papers**

Kunapareddi, V., Gilany, Y. & Said, H. Web-Based Multi-tenant Test Administration Tool. (in progress)

**Articles and Blog Posts**

Gilany, Y. (2017) Customizing the terminal bash prompt with Git Repo Status. *Accessed at: http://yahya-gilany.com/blog/articles/2017/06/03/Customizing-the-terminal-bash-prompt.html*

Gilany, Y. (2017) Implementing A Modal Within a Modal in Bootstrap3.0. *Accessed at: http://yahya-gilany.com/blog/articles/2017/06/05/Modal-within-a-modal-bootstrap.html*

Gilany, Y. (2017) Eco-System Backend architecture for a Fortune 500 Public Retail Company. *Accessed at: http://yahya-gilany.com/blog/articles/2017/06/06/Eco-System-Architecture.html*

Gilany, Y. (2017) Introduction to Design Patterns. *Accessed at: http://yahya-gilany.com/blog/articles/2017/06/17/Design-Patterns.html*

Gilany, Y. (2017) Introduction to Machine Learning. *Accessed at: http://yahya-gilany.com/blog/articles/2017/08/19/Machine-Learning.html*

Gilany, Y. (2018) Custom Orders using SQL or Javascript. *Accessed at: http://yahya-gilany.com/blog/articles/2018/02/24/Custom-Sort.html*

**Software Publications**

Gilany, Y. (Apr. 2017) Pomodoro - Visual Studio Code Extension
*Accessed at: https://marketplace.visualstudio.com/items?itemName=yahya-gilany.vscode-pomodoro*

Gilany, Y. (Jun. 2017) Terminal Launcher - Visual Studio Code Extension
*Accessed at: https://marketplace.visualstudio.com/items?itemName=yahya-gilany.vscode-terminal-launcher*

Gilany, Y. (Jul. 2017) CanIUse – Visual Studio Code Extension
*Accessed at: https://marketplace.visualstudio.com/items?itemName=yahya-gilany.vscode-caniuse*

Gilany, Y. (Jul.2017) API Doc – Paw Cloud Extension
*Accessed at: https://paw.cloud/extensions/ApiDocGenerator*

Gilany, Y. (Jun. 2017) Clock – Visual Studio Code Extension
*Accessed at: https://marketplace.visualstudio.com/items?itemName=yahya-gilany.vscode-clock*

# Projects *Further details on the projects are available on my e-portfolio site.

**Data Collection Application** Sept.2015

A collection web application developed for a Fortune 500 public retail company with rigorous business rules and requirements. Built initially as a Monolith application in a client-server architecture, then decomposed and refactored to be part of the Eco-system described below. The system was built with Node.js and JQuery.

**Eco-System for a Fortune 500 Public Retail Company** Sept. 2016 -Present

An Eco-System consisting of 6 applications (Web, Mobile, AR, VR) interfacing with a RESTful API gateway developed in a microservice architecture.

The system consists of 11+ microservices communicating with different services and tools such as Microsoft SQL Server, Redis, R server, Reporting Service, ActiveDirectory, etc. As the lead developer on the project, I:

- Architected, and designed the backend services and APIs.
- Designed and developed the database which consisted of 50+ tables and views and 300+ queries.
- Maintained and reviewed the code to ensure quality.

**Beyond Analytics/ Strategic Planning Application** Sept.2016 - Present

A web application built as part of the eco-system to serve as a playground for data analysts to investigate and improve their businesses. It is built using Node.js, and AngularJS. The application is packaged with machine learning, and data analytics algorithms developed using R programming language and integrated into the system using the SQL Server 2016.

**Lean-Manufacturing Solutions** Jan. 2018 - Present

A system to implement Lean processes in food manufacturing systems and factories. The solution is a client-server solution consisting of a cross-platform mobile application/client built using the Ionic3 platform, a web application/client built using angular5, and a Gateway API/server built using C# and Asp.Net Core 2.0 Framework. As the lead developer, I architected the solution, initialized the development of the web and API projects for the development team to adopt. I trained and mentored the developers on the technologies used. I also set up the CI/CD pipelines and managed the deployments.

**CanSat** Feb. 2015 -Apr. 15

An Educational Nanosatellite microcontroller project is utilizing various sensors, actuators, transmitters, and receivers. It consists of two Microcontrollers communicating through radio transmissions from the satellite to a ground station. The satellite collects temperature, humidity, pressure, geolocation, acceleration and orientation measurements, stores it onto an SD card, and then sent to the ground station where data was processed and visualized in a dashboard built with LabVIEW. A PCB board was designed and manufactured to electrically connect the sensors and electric components of the device. I also wrote an Arduino Library to interface with the GPS module. The components used include Atmega328, MPU-6050 (Accelerometer and Gyroscope sensor), BMP085 (pressure sensor), DHT11 (humidity and temperature sensor), RF or Xbee (for wireless communication through UART protocol).

**Dragon Shooter – Augmented Reality, AR Game** Feb. 2017 - Apr. 17

A group school project for the IT7031C Advanced Technologies for Game Development class. It was built using Unity Game Engine to provide an interactive game environment where you can see and shoot down dragons flying around you in your real setting.

**Pomodoro - Visual Studio Code Extension** April, 2017

A productivity/time-management tool developed for Visual Studio Code to help developers stay on task and more efficient with their time. A personal open-source project, built with TypeScript in an Object-Oriented Fashion. The extension was adopted and downloaded 5400+ times.

**Terminal Launcher - Visual Studio Code Extension** March, 2017

A productivity/DevOps tool for developers to configure their projects' terminal windows with commands.
A personal open-source project, built with TypeScript in an Object-Oriented Fashion. The extension was adopted and downloaded 1080+ times.

**VSCode Clock - Visual Studio Code Extension** June, 2017

An extension to the Microsoft Open source Integrated Development Environment, Visual Studio Code to show the time and date in the editor in a style and format configured by the user. The extension was adopted and downloaded 300+ times.

**Can I Use - Visual Studio Code Extension** April, 2017

A developer tool that provides an easily accessible up-to-date browser support tables for support of front-end technologies on desktop and mobile web browsers. It allows users to have access to the resource from the comfort of their IDE. The extension was adopted and downloaded 85+ times.

**API Doc Generator – Paw Cloud Extension** July, 2017

A productivity tool for developers who use the *Paw* HTTP Client application. The extension allows you to automatically generate API documentation based on the parameters passed and the results received from the API being request. The platform doesn't show download metrics of the extension.

**"To do" List Android Application** Jul. 2017 – Aug. 17

A school group project for the IT3046 - Mobile device Programming class at the University of Cincinnati. The application is a Native Android application built using Java. I was responsible for the backend development; including:

- built a RESTful Web API using C# and .Net Core framework.
- Creating the Data Models and classes for both the API and the mobile application.
- Handling the Networking and HTTP requests and threading of the mobile application processes.
- Parsing HTTP responses from non-Java formats (JSON) into Plain Old Java Objects (POJO).
- Building Data Access Objects (DAO) that provides an interface for the application to interact with the underlying persistence storage services (Stubs and actual).
- Connecting the backend to the UI.
- Writing Unit tests for the application.

**Customer Relationship Management (CRM) application** April 2017

A school group project for the IT3045- Contemporary Programming class at the University of Cincinnati. The application is a two manages customers, payment, and shipping information. It also manages an inventory of products and allows the customers to purchase them.

**Pizza Order application**

A school group project for the IT3045- Contemporary Programming class at the University of Cincinnati. The application has two interfaces, one for customers to custom make their pizzas, place their orders and receive their receipts, and another for chefs to streamline the pizza-making process. The development includes designing the database that handles the data persistence of the application.

**The BotFather, a bot for Slack messaging application** November 2017

An automated bot that can be integrated into the messaging application, Slack. The bot is used to facilitate the standup meetings through the messaging application, slack. The project Is open-sourced and can be self-hosted.

**Xamarin University Projects** 2017

A collection of applications built while enrolled in Xamarin University. All the applications are cross-platforms that can be deployed to iOS, Android, or Windows Phone.

- Books Client.
- Calculator.
- Tunes.
- Grocery List.
- Food Tracker.
- Internet Connection Status.

**Smart-Home Embedded Systems project** August 2014

A capstone graduation project from the Embedded Software and Systems Diploma. The system was built using two microcontrollers of the AVR family, specifically Atmega16. Users can authenticate themselves using a passcode stored in an external EEPROM and communicated with through I2C Protocol. The system controls multiple lights and brushless motors through Pulse-Width Modulation, PWM, controlling digitalized curtains and blinds. The system protocols and libraries were implemented from scratch using the C Programming language.

## Trainings, Courses and Conferences Attended

**Trainings**

| | |
|---|---|
| CanSat Training Program at the SSTLab, Space Systems and Technology Laboratory. | 84 Hours |
| Embedded Systems Software Diploma, Certified | 170 Hours |
| Entrepreneurial Development Skills Program | 60 Hours |
| Certified Xamarin Developer | In-progress |
| Google Cloud Platform Certification - Cloud Architect (GCP) | In-progress |

**Conferences Attended**

| | |
|---|---|
| Microsoft Tech Summit – Jan 2017 | 2 Days |
| Open Source Convention (OSCON) – May 2017 | 5 Days |

**Online Courses**

- Machine Learning (Stanford University), Certified
- Project Management (udemy.com), Certified
- Programming Foundations: Programming
- Programming Foundations: Object-Oriented Design
- Programming Foundations: Database
- Angular 2 Essential Training

## Achievements

- University of Cincinnati | CECH | **Dean's List 4.0 GPA** (Spring 16, Fall 16, Spring 17, Fall 17, Spring 18)
- Awarded the University of Cincinnati **Global Scholarship**
- Awarded the UC's School of Information Technology **Graduate Assistantship**.
- Participated in the US Department of States-funded **international exchange program**, Kennedy-Luger Youth Exchange & Study Program (**KL-YES**).
- **Outstanding Student** Award from LCAT academy, Learning Center for Applied Technology, during my exchange year at the US.
- The **President's Volunteer Service Award** in 2011.
- **Outstanding Volunteer Service Award** in 2011 from the United States Department of State.

## Activities

**Kapolei Robotics Team (Team 2445)** 2010-11
Programming sub-team of
Kapolei High School Team, HI, USA
- Used LabVIEW.

**CEPCP** Jan. 2014 – Jun. 14
Programming and Problem-solving Student Club

**Space Systems Technology Laboratory (SSTLab), Egypt** Dec. 2014 – Aug. 15
Member of the CubeSat research Team.
Participant in the CanSat Training Program.
CanSat Design-Build-Launch Competition
- Responsible for the CanSat's On-Board processors and programming

**Student Government** 2012-13
Faculty of Engineering, Cairo University
Cultural and Political Committee

**Legislative Internship Program in Hawaii State Senate** December 2010
Worked as an Assistant to the Representative Sharon Har of the State of Hawaii.

**Better Understanding for Better World (BUBW)** December 2010
Cultural and Religious Tolerance and Dialogue program.

**Department of State Alumni Connect** November 2013
Experiential Team Building Training. At the US Embassy in Cairo, Egypt