## Yahya M. Gilany

Assistant Professor -Educator & Software Solutions Architect and Developer 1846 Harmon Drive, Cincinnati, OH, 45215 +1 (513) 655-1795 • yahya.gilany@uc.edu • www.YahyaGilany.io

#### **Summary**

Highly skilled and dedicated educator, software solutions architect, and developer with a passion for empowering, mentoring, and training fellow developers, students, and clients. With over 5 years of teaching experience in software development and data analytics, I have made a significant impact on the ABET-accredited Information Technology Bachelor's program at the University of Cincinnati.

Over the course of my career, I have amassed 5+ years of hands-on expertise in system architecture and design, coupled with 7+ years of full-stack software development. My focus has been on crafting scalable and maintainable complex production-grade solutions and ecosystems. Proficient in Node.js, Express.js, React.js, SQL, and NoSQL databases, I have successfully delivered robust solutions that meet business needs.

My knowledge extends to Machine Learning Algorithms, leveraging Python libraries such as Pandas, Numpy, SciPy, and SciKit-Learn for data analysis tasks. This combination of skills allows me to bridge the gap between cutting-edge technology and practical applications.

Beyond technical prowess, I have excellent communication and client interaction skills honed through years of engaging, collaborating, and presenting to clients from diverse sectors and backgrounds. I thrive on new challenges, both technical and business-related, and I am always eager to contribute my expertise to building innovative solutions and helping others achieve their goals.

In summary, I am a multifaceted professional with a track record of excellence in education, software architecture, and development. I am always ready to take on new challenges, create impactful solutions, and continue making a positive difference in the world of technology.

#### **Education**

#### University of Cincinnati, Cincinnati, OH, USA

2016-2018

Master of Science M.Sc., School of Information Technology.

**Concentration:** Network Infrastructure and Machine Learning.

- Awards and Honors:
  - IT Accelerated Program (BSIT+MSIT): A selective program that allows for earning both master's and bachelor's degrees simultaneously. Received full funding as graduate research assistant.
  - Dean's List 4.0 GPA (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.

- Awards and Honors:
  - Summa Cum Laude
  - 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, Python, SQL, C#, Java, C/C++, R, HTML5/CSS3,

MATLAB/Octave.

Platforms, Frameworks, Technologies, and

**Techniques:** 

Node.js, Express.js, React.js, Angular.js, Angular, Ionic, Vue.js, SciKit-Learn, Microsoft SQL Server, MySQL, PostgreSQL, MongoDB, Autodesk Forge Cloud Developer Platform, ASP.Net Core 2.0, Nginx, Docker, Kubarnetes, Jonkins CL/CD, Drone is CL/CD, CitHub Actions, Liquibase

Kubernetes, Jenkins CI/CD, Drone.io CI/CD, GitHub Actions, Liquibase, RabbitMQ, D3.JS, Jekyll, Unity, Phaser, SolidWorks, LabVIEW, Domain-

Driven-Design, Microservices, mono-repo.

Operating Systems: Linux (Ubuntu, SUSE, CentOS), Windows Server, macOS, Windows

**Photo and Video Editing:** Photoshop, Premier, Screenflow.

## **Work Experiences**

#### University of Cincinnati - School of Information Technology (SoIT)

#### **Assistant Professor - Educator**

Aug. 22 -Present

- Teach the following courses for the ABET accredited Bachelor of Science program in Information Technology.
  - IT4063C Data Analytics Technologies. (In-person and web-based)
  - IT5003C Senior Design Capstone Project 1
  - IT5004C Senior Design Capstone Project 2
- Develop course material for IT4063C Data Analytics Technologies including video lectures, slides, course notes, and assignments.
- Provide course strategy and direction as the Course owner for IT3049C web game development and IT2053C Data Technologies Programming.
- Collaborate with faculty on the course strategy and direction.
- Served on the SoIT Applied Research Cross Functional Team.
- Served on the SoIT Undergraduate Program Cross Functional Team.
- Served on the SoIT Undergraduate Programs Panel, charged with the creation of new undergraduate programs.
- Awarded the SoIT 2022 "Rising Star Alumni" Award.

#### **Adjunct Instructor**

Aug. 18 – Jul. 22

- Teach the following courses for the ABET accredited Bachelor of Science program in Information Technology.
  - IT2045C Computer Programming II. (In-person and web-based)
  - IT3049C Web Game Development. (In-person and web-based)
  - IT5032 Senior Design Technical Practicum for Networking/Systems Track
  - IT5042 Senior Design Technical Practicum for Software Development Track
  - IT5072 Senior Design Technical Practicum for Cybersecurity Track
- Advised 25+ graduating senior design teams through their capstone project.
- Develop course material for IT2045C Computer programming II including video lectures, slides, course notes, and assignments. Videos can be accessed at https://bit.ly/YG-IT2045-CP2
- Develop course material for IT3049C Web Game Development including video lectures, slides, course notes, and assignments. Videos can be accessed at https://bit.ly/YG-IT3049C-WebGameDev
- Implemented a grading automation process to allow scaling to scale and to provide more detailed code review feedback on the submission.
- Delivered training to the School of Information Technology Faculty and Staff on the use of GitHub Classroom to bootstrap assignments and grade automation.

#### **University of Cincinnati - Information Technology Solutions Center (ITSC)**

### Senior Research Associate with Assistant Director and Tech Lead duties

Feb. 21 – Jul. 22

- Responsible for the center operations.
  - Manage full-time staff, student workers and graduate assistants.
  - Manage different IT services offered by the center to various clients.
  - Coordinate the center budget planning activities.
  - Coordinate the center grants and proposal development.
  - Ensure efficient and successful operations.
  - Serving as an escalation point for clients.
  - Responsible for the center staffing and hiring.
- Responsible for the center's technical operations:
  - Architect, and develop a new software eco-system for the Ohio Criminal Sentencing Data Platform<sup>1</sup>.
  - Research topics related to DevOps, architecture, and software development.
  - Serve as a technical reference and mentor to the staff and students.
- Other activities and duties:
  - Served on the Early IT Internship Steering Committee
  - Presented on numerous occasions to the Early IT
- Awarded the College of Education, Criminal Justice and Human Services 2021 "Outstanding Service Award".

<sup>&</sup>lt;sup>1</sup> See the project section for further details about the project.

#### Research Associate with Tech Lead duties

 Responsible for the solutions and systems' design and architecture, and led endto-end software development life-cycle, from inception to deployment for diverse projects, ensuring successful delivery and client satisfaction.

- Established and implemented the Scrum agile software development processes across all teams, including conducting sprint planning, reviews, and retrospectives, backlog refinement sessions, and daily standups.

- Standardized and documented technical operations and processes, driving productivity and ITSC scaling and growth.
- Mentored and supervised undergraduate and graduate students in various technical roles, fostering skill development and professional growth.
- Mentored interns through the research and development of machine learning statistical models to evaluate the effectiveness of correctional programs in the state of Ohio using Python and Scikit-Learn library.
- Advised leadership on technical requirements and resource allocation, contributing to effective project planning and execution.
- Collaborated with Infrastructure Operation teams to align application needs with system updates and enhancements.
- Managed the maintenance and administration of 80+ servers supporting development and production applications.
- Spearheaded the establishment of DevOps practices and operations, automating processes, streamlining deployments, and enhancing system observability resulting in improved quality and speed of software delivery.
- Successfully developed and integrated business-to-business (B2B) systems for two major software ecosystems developed at ITSC.
- Stayed up-to-date with emerging technology trends and industry standards, driving modernization efforts for current and legacy systems.
- Architected and developed software eco-systems for a fortune 200 public retailing company, and midsize hiring and staffing company.
- Implemented Offender Risk Assessment and Case Planning Systems for various state and municipal government entities.
- Conducted 10+ in-person training workshops for representatives from 81 counties in Ohio, promoting effective usage of the Offender Risk Assessment and Grant Tracking system.
- Delivered four developer training sessions and webinars on business-tobusiness integration with the Offender Risk Assessment system, educating state offices and contracted vendors from 4 state government entities.
- Recognized with the college's 2019 "Above and Beyond Professionalism" Award and the School of Information Technology's 2019 "Distinguished Young Alumni" Award.

#### **Lead Developer**

- Lead the development teams for over seven large-scale projects at the ITSC.
- Trained new developers on best practices and technologies
- Developed scripts to automate the deployment procedure of a multi-layered, service-oriented, distributed software ecosystems.
- Set-up Development and Operations (DevOps) environments and tools for 10+ new projects, applications, and services.
- Represented the ITSC in requirement gathering sessions with various clients, including startup companies, government agencies from multiple states, and Fortune 200 retail companies. The sessions include in-person, phone call, and web conferencing.
- Used a distributed software architecture model for deploying a public retail software application ecosystem to optimize the resource sharing and utilization and to improve the system resilience.
- Implemented Unit testing for the various components of the projects.
- Implemented a secure CI/CD pipeline to automate the testing and deployment.
- Redesigned and restructured the source code's version control model, increasing productivity and reliability.
- Wrote scripts using python to convert Statement of Work documents into GitHub milestones and issues.

Jan. 18 - Jun. 18 Alternating Full-time and Part-time schedules

July. 18 - Feb. 21

- Wrote scripts using Python to move GitHub issues between projects.
- Presented and published at multiple events, conferences, and journals.
- Architected and designed a scalable microservice-based backend services and APIs for a large-scale eco-system responsible for consuming, analyzing, and producing reports on large volumes of data for a Fortune 200 retail enterprise.

#### **Software Developer Team Lead**

- Designed and developed databases for the eco-system on the enterprise data management system used by the client, MS SQL.
- Developed and implemented the backend services and APIs for the system using Node.js, Microsoft SQL Server with Machine Learning and R Services, Redis, RabbitMQ, and Docker.
- Developed and implemented R Script and Microsoft SQL Server integration with a web application to execute machine learning analytics, and optimization jobs through the application.
- Built a cross-platform mobile application using Xamarin and C# to evaluate as a potential candidate for a technology stack for a manufacturing operation consultancy. The work extended into the following position.
- 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 progress update briefings.
- Presented the eco-system database design to the client's development team.
- Developed a C++ software prototype for Autodesk's Forge Design Automation API. The script parses retail floor plan files and presents them in a format suitable for further processing.

#### **Software Application Developer**

- Designed a client-server software solution for a Fortune 200 public retail enterprise.
- Developed a client-server software solution for a Fortune 200 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 of the application to the client's servers.

*May.* 16 - *Dec.* 17 Alternating Full-time and Part-time schedules

Sept. 15 - Apr. 16

Alternating Full-time

# and Part-time schedules oo retail company

#### **Presentations and Publications**

- 1. Gilany, Y. (2019). Modernize Legacy Entrerprise Application and Systems' Infrastructure using Docker Containers. *Presentation to Representatives of the software development and Infrastructure units of the University of Cincinnati*'s IT Division (UCIT). Cincinnati, OH.
- 2. Gilany, Y., ElQuosey, A. & Said, H. (2019). Improving the Efficiency of Releasing and Deploying a Multi-Layered, Service-Oriented, Distributed Software Ecosystem. *University of Cincinnati IT Expo Research Symposium. Cincinnati, OH.*
- 3. Bakare, A., Kunapareddy, V. Gilany, Y. & Said, H. (2019). Integrating FAIR into NIST Framework for Quantitative Risk Assessment of Cyber Threats. *University of Cincinnati IT Expo Research Symposium. Cincinnati, OH.*
- 4. Gilany, Y. ElQuosey, A. & Said, H. (2019). Establishing a DevOps Culture and Practice at the Information Technology Solutions Center: Case Study. *Ohio Higher Education Computing Council. Bowling Green, OH.*
- 5. Gilany, Y. (June 2019). Web Development and ITSC Technology Stack. *Seminar and Training Workshop to ITSC staff. Cincinnati*, OH.
- 6. Gilany, Y. (March 8, 2019). OYAS and Grant Tracking System Usage and Features. *Training Workshop to Representatives of 23 state of Ohio counties' Department of Corrections. Van Wert, OH.*

- 7. Gilany, Y. (March 1, 2019). OYAS and Grant Tracking System Usage and Features. *Training Workshop to Representatives of 21 state of Ohio counties' Department of Corrections. Akron, OH.*
- 8. Gilany, Y. (February 15, 2019). OYAS and Grant Tracking System Usage and Features. *Training Workshop to Representatives of 22 state of Ohio counties' Department of Corrections. Columbus, OH.*
- 9. Gilany, Y. (February 8, 2019). OYAS and Grant Tracking System Usage and Features. *Training Workshop to Representatives of 15 state of Ohio counties' Department of Corrections. Columbus, OH.*
- 10. Gilany, Y. (2019). IT2045C- Computer Programming II. Accessed at: https://bit.ly/YG-IT2045-CP2
- 11. Gilany, Y. & Said, H. (2018). Automated Reporting System for Funding and Grants for Juvenile Correction Programs. *University of Cincinnati IT Expo Research Symposium. Cincinnati, OH.*
- 12. Gilany, Y. (October 22, 2018). Performing a Business to Business Integration with UCCI's Cloud-Based Offender Risk Assessment Ecosystem. *Presentation and Training Workshop to Representatives of Software Vendors of the State of Illinois and its counties. Webinar*
- 13. Gilany, Y. (October 22, 2018). Performing a Business to Business Integration with UCCI's Cloud-Based Offender Risk Assessment Ecosystem. *Presentation and Training Workshop to Representatives of the State of Nebraska's Board of Parole and OCIO. Webinar*
- 14. Kunapareddi, V., Gilany, Y. & Said, H. (2018). An Innovative Solution to Bridge Industry and Student Needs. *Ohio Higher Education Computing Council. Youngstown, OH.*
- 15. Gilany, Y. (April 25, 2017) Ecosystem Database Structure Design. *Presentation to Developers, System and Database Administrators of a Fortune 200 public retail company. Cincinnati, OH.*

#### **Software Publications**

- 16. Gilany, Y. (July 2017) "Can I Use" Visual Studio Code Extension. *Accessed at:* <u>https://marketplace.visualstudio.com/items?itemName=yahya-gilany.vscode-caniuse</u>
- 17. Gilany, Y. (July 2017) API Doc Paw Cloud Extension. *Accessed at: https://paw.cloud/extensions/ApiDocGenerator*
- 18. Gilany, Y. (June 2017) Terminal Launcher Visual Studio Code Extension. *Accessed at:* <a href="https://marketplace.visualstudio.com/items?itemName=yahya-gilany.vscode-terminal-launcher">https://marketplace.visualstudio.com/items?itemName=yahya-gilany.vscode-terminal-launcher</a>
- 19. Gilany, Y. (June 2017) Clock Visual Studio Code Extension. *Accessed at: https://marketplace.yisualstudio.com/items?itemName=yahya-gilany.vscode-clock*
- 20. Gilany, Y. (April 2017) Pomodoro Visual Studio Code Extension. *Accessed at: https://marketplace.visualstudio.com/items?itemName=yahya-gilany.vscode-pomodoro*

## $\boldsymbol{Grants\ and\ Contracts}\ *_{as\ Principal\ Investigator\ (PI),\ Co-PI,\ and\ Key\ Personnel}$

- 1. State Personnel Development Grant (SPDG). Dr. Julie Morrison and Ohio Department of Education. (2023-2028). \$120,000.
- 2. Gilany, Y. (2021 2026). Enhancing Evidence-Based Practices for English Learners (EBPs4ELs). A subaward from the U.S. Department of Education to develop a software solution to facilitate and implement the research findings. Systems Development and Improvement (SDI) Center. (2021 2026). \$36,0922.
- 3. Gilany, Y. (2022-2027). Project ELM. A sub-award from the U.S. Department of Education. Systems Development and Improvement (SDI) Center. \$36.490.31.
- 4. AC-SEL. (2022-2023). \$16,794.66
- 5. OH V-Lifts. (2020-2023). \$61,000.89
- 6. Gilany, Y. (2022 2023). State of Missouri Offender Risk Assessment System Maintenance and Support.

The State of Missouri Department of Corrections. \$80,076.

- 7. Gilany, Y. (2022-2023). IL DOC Automation Maintenance and Support 2023. The State of Illinois Department of Corrections. \$95,251.
- 8. Gilany, Y. (2022-2023). Contra Costa Maintenance and Support 2023. Contra Costa County Probation Department. \$15,540.37.
- 9. Gilany, Y. (2021 2023). San Mateo County Offender Risk Assessment System Implementation and Maintenance. \$44,200.
- 10. Said, H., Gilany, Y. (Co-PI) (2021 Present). Integrated Space Square Footage Collection. Macy's. Multiple Awards. \$199,624.00.

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

#### **Ohio Criminal Sentencing Data Platform**

Nov. 2020 - Present

A web eco-system built for the Ohio Criminal Sentencing Commission. It will allow for the collection of sentencing data in a comprehensive and searchable database that will tell story of sentencing in the state of Ohio, inform decision-making, and make data accessible for the public, practitioners, and research. The system uses React.js, Typescript, Node.js, MongoDB, and PostgreSQL.

Role: Software architect and lead developer

TeamEval Jun. 2020- Present

A web application to facilitate peer and self-evaluations in team projects. It is meant to give the instructors an insight into the work dynamics of student teams as well as offer students feedback on how they can be more effective with their teams. It's built with Node.js using TypeScript for the backend and React.js using JavaScript for the frontend.

A software ecosystem that enables probation and correction departments in various

**Role:** Product Owner and architect

#### Offender Risk Assessment and Case Planning System

2016-Present

states and counties and criminal justice research institutions to survey and report on the individual offenders' criminogenic needs and help plan best methods to address those risks and needs resulting in an effective intervention treatment plan.

Role and Responsibilities: Software developer. I also implemented the Offender Risk Assessment and Case Planning System for the State of Missouri's Department of Corrections, the State of Illinois's Administrative offices of the Illinois Courts, the State of Nebraska Board of Parole, the State of Michigan Department of Health and Human Services, Kansas City Municipal Division, the State of California's Contra Costa County Probation, the State of New Jersey's Administrative offices of the Courts. I also, delivered web-based seminars (webinars) to government IT departments and vendors on the system's business-to-business integration capabilities to representatives of The State of Nebraska Office of the Chief Information Officer and the Board of Parole, the State of Illinois and its counties contracted software vendors, the State of Missouri Department of Corrections.

#### **Eight-Eleven Professional Development Toolkit**

2018-2020

A multi-layered client-server web application ecosystem. It consists of a Gateway server API as a backend service, a web application built with Angular and a cross-platform mobile application built with Ionic.

Role: Software architect and lead developer

#### **Virtual Events as a Service Platform (VEaaS)**

Mar. 2020 - July 21

VEaaS was built to host the annual event of the University of Cincinnati's School of Information Technology IT Expo in the wake of the COVID-19 Pandemic were inperson events had to be cancelled. The developed platform included a main stage where the live keynote speeches and closing ceremonies were streamed and many breakout rooms to showcase senior design projects, high school competition,

research symposium, and industry sponsors. The event can be found here: <a href="https://itexpo20.live">https://itexpo20.live</a>. The platform was repurposed for the University of Cincinnati Department of Political Science to host a graduation ceremony for their graduates. The event can be found here: <a href="https://poliscinexus20.live">https://poliscinexus20.live</a>. The platform was built using React and hosted on Netlify's cloud service.

Role: Software architect and lead developer

#### **Square Footage and Floor Plan Collection Integrated Workflow**

Feb. 2018 - 2021

An enhanced version of the Square Footage Collection application developed for a Fortune 200 public retail company. It eliminates the need for form data entry and replaces it with an integrated cloud-based floor plan. The online floor plans system enforces many business rules and requirements and enforces consistency between the stores floor plans and the square footage data collected for financial analysis. The system is built as part of a larger suite of application integrating many business units at the corporation with integrity and accuracy. The application allows vendors, store managers and architects to collaborate on one platform. The system is built using Node.js, Express.js and Restify for the backend services and microservices, and JQuery for the frontend needs until it was replaced with Vue.js as frontend framework. The system also adopts and integrates with the Autodesk Forge Developer Platform.

Role: Developer, Team Lead, Solution Architect

#### Eco-System for a Fortune 200 Public Retail Company

Sept. 2016 - 2021

An Eco-System consisting of 6 applications (Web, Mobile, AR, VR) interfacing with a RESTful gateway API 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 Services, Active Directory, etc.

Role: Developer, Team Lead, Solution Architect

#### **Beyond Analytics/ Strategic Planning Application**

Sept. 16 - Jan. 2019

A web application built as part of the eco-system for a Fortune 200 public retail company 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 Machine Learning and R services.

Role: Developer, Team Lead, Solution Architect

#### **Lean-Manufacturing Solutions**

Dec. 17 - Aug. 2018

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 built using Ionic3, a web application built using angular5, and a Gateway API built using C# and Asp.Net Core 2.0 Framework. As the lead developer, I architected the solution, and initialized the development of the frontend and API, trained and mentored the software developers on the technologies used, set up the CI/CD pipelines, and managed the deployments.

Role: Solutions Architect, and team lead

#### **Square Footage Collection Application v 1.0**

Sept.2015-Aug. 16

A data collection web application developed for a Fortune 200 public retail company with rigorous business rules and requirements. Built in a Monolith client-server architecture, then decomposed and refactored to be part of a larger Eco-system.

**Role:** Developer

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

An Educational Nanosatellite project that utilizes various sensors, actuators, transmitters, and receivers. It consists of two Microcontrollers communicating with radio transmissions from the satellite to a ground station. The satellite collects temperature, humidity, pressure, geolocation, acceleration and orientation measurements, stores them onto an SD card, and then sends them to the ground station where data is 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. 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), and GPS Module.

#### Dragon Shooter - Augmented Reality (AR) Game AR

Feb. 2017 - Apr. 17

A project developed for IT 7031C-Advanced Technologies for Game Development class. It is built using C# on the Unity Game Engine to provide an interactive game environment where a player can see and fight flying dragons in their 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 be more efficient. It is a personal open-source project, built with TypeScript and Node.js. It is adopted and downloaded 11k+ times.

#### **Terminal Launcher - Visual Studio Code Extension**

March, 2017

A developer productivity tool to configure Visual Studio Code Integrated Terminal windows for different projects. The tool is a personal open-source project built with TypeScript and Node.js. It is adopted and downloaded 2900+ times.

#### Can I Use - Visual Studio Code Extension

April, 2017

A developer tool that provides an easily accessible up-to-date browser support tables of frontend technologies on desktop and mobile web browsers. Users gets access to the resource from their integrated development environment (IDE) or code editor. The extension was adopted and downloaded 700+ times.

#### **API Doc Generator - Paw Cloud Extension**

July, 2017

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

#### **Smart-Home Embedded Systems project**

August 2014

2 Days

An Embedded Software and Systems Diploma's capstone project from the Syndicate of Engineers in Egypt. The system users two Atmega16 AVR micro-controllers. Users are authenticated using a passcode stored in an external EEPROM and interfaced through I2C Protocol. The system controls multiple lights and motors through Pulse-Width Modulation (PWM) controlling electric window blinds and doors. The system protocols and libraries were implemented using C and C++ programming languages.

## **Certifications, Trainings, and Conferences**

#### Certifications

Certified ScrumMaster® June 2021 - 2025

**Trainings** 

SEI Software Architecture Professional from Carnegie Mellon University's Software In-progress **Engineering Institute** Communication for Leadership Success 4 Hours Coaching for Peak Performance. 4 Hours CanSat Training Program at the Space Systems and Technology Laboratory (SSTLab). 84 Hours Embedded Systems Software Diploma, Certified. 170 Hours Entrepreneurial Development Skills Program. 60 Hours

Microsoft Tech Summit – Jan 2017.

**Conferences Attended** O'Reilly Open Source Convention (OSCON) – July 2019 5 Days Ohio Higher Education Computing Council (OHHEC) – May 2019. O'Reilly Open Source Convention (OSCON) – July 2018. 5 Days Ohio Higher Education Computing Council (OHHEC) – May 2018. O'Reilly Open Source Convention (OSCON) - May 2017. 5 Days

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#### **Online Courses**

- Machine Learning (Stanford University through Coursera), Certified.
- Programming Foundations: Programming.
- Programming Foundations: Object-Oriented Design.
- Programming Foundations: Database.
- Foundation of Cloud Architecture.

#### **Achievements**

- Awarded the 2022 School of Information Technology "Rising Star Alumni Award".
- Awarded the 2021 School of Information Technology "Outstanding Service Award".
- Awarded the 2019 School of Information Technology's "Distinguished Young Alumni Award".
- Awarded the 2019 University of Cincinnati's College of Education, Criminal Justice, and Human Services "Above and Beyond Professionalism" Award.
- University of Cincinnati | CECH | **Dean's List 4.0 GPA** (Spring 16, Fall 16, Spring 17, Fall 17, Spring 18)
- Awarded the UC's School of Information Technology **Graduate Assistantship**.
- Outstanding Student Award from the Learning Center for Applied Technology (LCAT) 2011.
- The United States **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), Programming Team	2010-11
Space Systems Technology Laboratory (SSTLab), Egypt Member of the CubeSat research Team, CanSat Design-Build-Launch Competition  • Responsible for the CanSat's On-Board processors and programming	Dec. 14 – Aug. 15
Student Government Faculty of Engineering, Cairo University	2012-13
<b>Legislative Internship Program in Hawaii State Senate</b> Worked as an Assistant to the Representative Sharon Har of the State of Hawaii.	December 2010
Better Understanding for Better World (BUBW) Cultural and Religious Tolerance and Dialogue program.	December 2010
Department of State Alumni Connect Experiential Team Building Training at the US Embassy in Cairo, Egypt.	November 2013