

# Belal Zahran

Software Developer - Enterprise & Internal Tools

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## EDUCATION

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### University of California, Irvine:

September 2020 - June 2024

B.S. in **Computer Science**

Dean's Honor List

## PROFESSIONAL EXPERIENCE

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### Meta

April 2025 - Current

#### *Contract Internal Tools Software Developer*

- Sole developer of **RL BugMaker Tool**, a web-app supporting **3000+** employees and **100+** teams in filing and managing bug reports
- Modernized **BugMaker** codebase by migrating legacy **Hack/XHP** into **React** components, improving maintainability
- Built a **BugMaker Insights dashboard** with metric tiles and traffic analytics, giving teams visibility into **1,000+** weekly bug reports
- Integrated **MetaMate AI assistance** directly into text fields, enabling auto-generated and refined bug descriptions
- Redesigned the BugMaker UI to align with Meta's internal tooling standards, improving usability and consistency

### AONDevices

Nov 2024 - March 2025

#### *Software Engineering Intern*

- Utilized libraries like **React** and **Node.js** to implement debugging features into **full-stack** AON360 Codebase
- Worked with **Embedded RCU's** to enable OTA firmware updates and seamless two-way connection with the client device
- Developed **Python** scripts to speed up common workflows, achieving a nearly **2x** efficiency increase in standard test procedures
- Conducted in-depth evaluations of various Text-to-Speech solutions to identify optimal models for integration into AON360 codebase

### Karma Automotive

June 2023 - Sept 2023

#### *Powertrain Controls Software Intern*

- Developed an automated VIN-flashing tool using **Python** reducing vehicle flashing times by **30%**
- Designed a harness using a **CAN-bus reader** and **python-can** library resulting in Karma's first consumer friendly flashing method
- Implemented features such as password protection, flashing history, legal VIN verification, and automated key encryption access
- Worked on the calibration of the Powertrain Control Unit and conducted torque diagnostics to increase initial torque on vehicles

### Kumon

Sept 2023 - Dec 2023

#### *Freelance Software Developer*

- Developed a digitized check-in system using **Flask**, pioneering the Kumon Center's first online homework tracking system
- Designed and managed a database using **mySQL** and **mySQL workbench** to keep records of **200+ students**
- Implemented **two** user friendly **GUI** using **HTML, Javascript, CSS**, and **Python** to reduce record look up time by **50%**
- Incorporated automated messaging services using **Twilio API** to foster better communication with parents

## PROJECTS

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### Automated Medication Dispenser (*C++, HTML, CSS, JavaScript, ESP32*)

- Designed and developed a 3D-printed automated medication dispenser using an **ESP32** as the main microcontroller
- Integrated Firebase for hosting services and cloud database for streamlined, easy user access
- Implemented user interface using **HTML/CSS/Javascript** for real-time control and monitoring of user analytics

## SKILLS

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**Programming Languages:** Python, C++, JavaScript, Java

**Machines/Hardware:** Microcontrollers (STM32, Arduino, ESP32, ATmega32), Raspberry Pi, Soldering, Firmware, Schematics, Circuits

**Frameworks & Tools:** Flask, Node.js, React.js, Windows, MacOS, Linux, bash, GIT, MySQL, MongoDB, SSH, REST APIs, Firebase, AWS, Google Cloud, Docker, Platformio, Arduino