



# BILAL MAHMOOD

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**Software Development & Testing | Code Maintenance | Debugging | Big Data Analysis | Programming**

Software engineer building tailor-fit desktop applications by utilizing advanced software development frameworks and tools. Optimizes application performance by designing, developing, and testing customer-focused features and functionalities in an Agile environment. Adept at gathering and translating user requirements into mission-critical applications with interactive interfaces. Streamlines business operations by introducing automation, troubleshooting bugs, and implementing SDLC best practices.

Object-Oriented Programming  
Algorithm Design & Development  
Database Design & Management

Cross-Functional Collaboration  
User Experience Improvement  
Customer Needs Analysis

Python, Java, JavaFX, C#, C++, HTML  
VCS (GitHub/Git), SQL, IntelliJ IDEA  
Eclipse, Linux, Docker, Kubernetes

## EDUCATION

**MS in Computer Science/Spec in SE**, Lamar University | GPA: 4.00 + Rank 1 | Awards: Grad. Student of the Year May 2022

*Coursework:* Foundations of Computer Science, Algorithm Analysis, Computing Networks, Software Engineering, Machine Learning

**BS in Computer Science**, Lamar University | Awards: President's & Dean's Lists 2020

*Coursework:* Software Engineering, Programming Fundamentals, Discrete Structures, Computer Organization Assembly Language, Introduction to Computer Theory, Algorithm Design & Analysis, Designing Programming Languages, Operating Systems, Database Design, Introduction to Image Processing, Big Data Warehousing, Network System Administration

### Select Projects

- **Thesis:** Currently, reviewing the effects of computer-emitted blue light on employees' focus by leveraging an EEG machine to study brain waves; assessing probability of workplace productivity improvement using certain lights, while reducing eyestrain.
- **Discord Bot:** Streamlined real-time query handling on a 25,000-member Discord server by automating a Python bot to track and redirect queries to the help channel; added custom commands for moderators; used Discord.py and Steam APIs; completed commissioned bots for people.
- **RsFlipper:** Reduced time to fetch game prices on RuneScape by ~67% by leveraging a web scraping technology; created a Java-based application to accept user queries and gather prices; assisted users in determining ROI on queried items.
- **FlipCalc:** Automated live RuneScape market price tracking, predicted prices using graphical displays for historical prices, and recommended investment opportunities by leveraging Java. Currently converting the program into a web application.
- **SteamInfoPuller:** Ensured accurate game information extraction from the Steam database by using Steam API with JSON.

### Graduate Assistant & Tutor

08/2020 – Present

Helped students build mastery of Micro Computers, Fundamentals for Programming, and Java by guiding as an SME.

## PROFESSIONAL EXPERIENCE

### Software Development & Research Intern, Sobah Systems

11/2020 – 04/2021

Managed full lifecycle application development and delivery for clients by leveraging cutting-edge software development tools.

- Facilitated a NoSQL database development for a client by designing, coding, and maintaining an advanced web scraper, Wiki bot; seamlessly scraped data from 30,000 Wikipedia URLs; enabled data auto-organization for database creation.
- Streamlined data extraction from local government websites and Google search results by creating web scraping bots using Python, Requests library, and BeautifulSoup; eased data import for clients by creating CSV-based output files.
- Cut application runtime by 88% by optimizing web scrapers using multithreading tools, such as threading and multiprocessing.
- Ensured accurate custom application development by working closely with clients to collect and document product requirements; collaborated with development SMEs.