

# Talha Aamir

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## EXPERIENCE

### Ricult - Full Stack Software Engineer (June 2020 - Present)

1. Worked with RnD to develop an entire **analytics feature** built on **google maps** using **AngularJS**, that can handle clustering and rendering **2 million + farms all across Thailand and Pakistan**, generating more than **\$500,000** in company revenue.
2. **Optimized** a key api endpoint in **Flask (Python)** by **90%** to scale **from 1000 farms to 2 million+ farms**.
3. Developed a **general scripting language** on top of **python**, to allow the entire ricult team to send **push notifications** to **~200,000** devices.
4. Project Lead and Core maintainer of backend test framework in **Python** using **Pytest**
  - **Enabled faster rollouts** and led to a **2x speedup in feature release times**.
  - Setup DB isolation for test suites using **sqlite**.
  - Setup Code Coverage reports using **coverage** and **py-cov**
  - Setup monitoring of slowest server endpoints to allow the team to **improve application response times** by **70%**.
  - Setup **Load Testing** using **Locust**.
5. Project Lead and Core Maintainer of the CI/CD Pipeline using **Gitlab-CI** and **Docker**
  - Setup a **CI/CD pipeline runner** using **AWS EC2**, and **Docker**
  - Setup the pipeline instructions file to execute tests and deploy to all relevant environments.
  - Helped **speed up rollout times** by **40%**, and reduced production errors by **60%**.
6. **Identified** a key issue with the in house fetch library written in **AngularJS**, and undertook the project of rewriting the entire library, resulting in an implementation that **improved response times** by **50%**.

## OPEN-SOURCE

**OpenAge** ([Issue Link](#)) Identified an issue with the make steps of the project, that was occurring on **multiple debian based platforms**. Proceeded to create a card and **added a fix** for it.

**React-Pdf-Highlighter** Forked the **react-pdf-highlighter** repo and added functionality to **allow customizing pdf.js**, Mozilla's pdf reader (also used in firefox). Allowing people to combine **two incredibly powerful tools**, and create **imaginative apps**. Active Volunteer in [helping out community members](#).

## PROJECTS

**ReadSync** A React based web app with express as the backend, and using postgresql. The web app also uses Mozillas' pdfJS library to serve as an **online pdf reader** that keeps user progress synced across all platforms. (Firebase, React, js, Nodejs, Express, PostgreSQL)

**ShareStuff** A react-native app designed to make the process of media sharing amongst friends and contacts easier. (ReactNative, typescript, firebase sdk)

**navi-maze** A game written in C meant to show my **algorithmic and mathematical skills**. This uses the **raylib engine**, which is a very **minimalistic game engine**, hiding away only platform details. All **functions and mathematical formulas** are **self-implemented**, and it has a good amount of unique and creative **optimizations** to ensure performance on systems like the raspberry pi. (C, Raylib)

## SKILLS

**Languages**    Typescript, Javascript, Python, HTML, CSS, PostgreSQL, MariaDB, SQL, C++, C, Golang

**Frameworks**   React, React Native, Express, Node, Angular, Flask, Ionic

**Libraries**      Cypress, Pytest

**Tools**          Git, Bash, ssh, Linux, Gitlab CI, Docker, AWS, Heroku, Memcached

## EDUCATION

**LUMS - BS-CS**  
GPA: 3.01

## IMPORTANT COURSES

Distributed Systems, Software Engineering, Data Structures, HCI, Program Analysis, Advanced Programming