Balaj Saleem

Software Engineer

Ankara, Turkey

+90 553 169 5037 / +92 320 051 4221

balajsaleem@live.com

linkedin.com/in/balajsaleem

github.com/BalajSaleem

Education

Bachelors of Computer Engineering   Sept 2017 - Jun 2021

Bilkent University, Ankara, Turkey.

Cumulative GPA: 3.23 / 4.00
Awards : Dean's High Honor List and Full-Ride Scholarship.

Experience

Machine Learning Engineer   Nov 2020 - Present

Ango AI

Worked as a machine learning engineer, working on key projects and developing AI assisted data labeling tools reducing manual annotation times and observing upto 800% increase in efficiency, giving the company an unparalleled edge in the annotation market allowing faster throughput, and enticing funding of about $ 700K from global investors.

Responsibilities included:

- Procuring , refining and delivering labeled data with ensured quality to stakeholders including Governmental, Military, Insurance, E-Commerce organizations and many more ensuring timely, consistent and efficiently labeled data.
- Implementing an automated state of the art quality assurance pipeline to reduce human intervention in assuring label quality by 40% and significantly increasing customer satisfaction with labeled data.
- Researching, Developing and Deploying AI assistance tools specifically focused towards image annotation on Python, React and Node.js using libraries such as OpenCV, TensorFlow, Keras, Pytorch, Numpy, Qt.,using GCP and AWS services.
- Implementing and combining interactive computer vision and image segmentation techniques like Grab-cut, Deep Extreme Cut, Single Shot Detection, Single Click Segmentation, MaskRCNN for rapid image labeling.
- Full stack development and integration of AI services on the online annotation platform using React and Node.js

Flutter Developer   Sept 2020 - Nov 2020

Appoint

Worked as the sole flutter developer for a Start-Up aiming to create an appointment / reservation management system for to tap the lucrative market of Barbers Shops and Parlors in Turkey. Developed a cross platform application that barbers / owners would use to manage and create reservations, manage customers, analyse trends and update services and business specifications. Responsibilities included:

- Developing scalable and accessible widgets with Dart, using Object Oriented, CI/CD and BLoC Design Principles.
- Maintaining fluid and productive communication with the founding members to ensure the requirements are met.
- Using Jira for issue tracking and Git for version control used as secondary tools. Bitrise for CI/CD
- Implementing Firebase cloud functions for interaction between database and mobile application.

Full Stack Developer   Jul 2020 - Sept 2020

TÜBİTAK - Science and Technology Research Council of Turkey

Worked as a summer intern in Turkish government's prime R&D institute on a full stack development project. aimed at developing an event management (registration, scheduling and visualization) app using React, Spring and Flutter. The following were developed:

- Web app comprised of numerous responsive components using React JS and Material-UI, incorporating ChartJs, Axios, Google Maps API, SockJS, Stomp and multiple other libraries.
- Cross-Platform mobile application developed using the Flutter framework written in Dart, following the MVC pattern.
- A RESTful API using Spring Boot to communicate in realtime with database and clients(requests/websockets)
- A Database layer implemented using PostgreSQL to persist entities and query data.

Software Engineer   Feb 2020 - Jul 2020

InfoDif

Worked during semester as a part-time engineer in the core engineering team of InfoDif to expand functionality and add features to the company's trademark video management software for the defense industry. Key responsibilities included:

- Using object oriented design principles, to add and update components employing the cross-platform Qt framework in C++.
- Designing User Interface for components using XML format and Qt Designer.
- Using CI/CD principles and following the software life-cycle and using Git for version control.
- Developing a persistence layer using serialization for the application to improve user experience.

Android Developer   Jul 2019 - Oct 2019

Ascend Technologies

Developed and published an Android application for school management for multiple branches of Ascend International School to assist the management in decision making and identify improvement factors. Corollary work related to the application:

- Interacted with sponsors to elicit requirements, deliverables, scope and resources for the project.
- Implemented Firebase Real-time Database to centralize record of branches, employees and stats of each employee.
- Developed data visualization tools using Java and android libraries to review employee and branch performances.
- Developed Authentication systems for each branch to ensure privacy and safety of data.

Game-Developer   May 2019 - Jul 2019

Sigun Information Technologies and Consultancy

Worked on a project assigned by Turkish Science and Technology Research Council to develop a platform that trains and rehabilitates stroke patients through games by stimulating motor function development. Responsibilities included:

- Development of 15 mini-games, using Unity, each aimed at different aspect of motor function, with various levels.
- Implementing Bluetooth communication b/w patients computer and the device's actuators using the BLE 4.0 protocols.
- Data collection from the patients response and progress, refinement and submission of this data to the doctors
- Presentations and progress reports to stakeholders and government officials assigned to monitor the project.

Founder and President   Jan 2016 - Dec 2016

Google CS First Club, Pakistan

Initiated Google's CS-First program for the first time in Pakistan, provided a platform from high school for seniors to use their knowledge in the subject to teach students of lower grades to garner interest in tech-related domains. Work Done:

- Taught basic concepts of computing and programming to juniors;helped with projects and assignments.
- Worked as a moderator to ensure adherence to the program provided by Google, ensured proper allocation of resources
- Submitted progress reports every week to affirm the coherence of the program.

Projects

- **Foodster:** A cross-platform mobile application for generating personalized meal plans, cost estimates, time estimates using a recomender system based on user's nutritional preferences, with a massive recipe database. Providing an extremely time and cost efficient solution to one's nutritional needs. Used **Dart, Flutter, Node.js, Heroku, MongoDB**.
- **Image Shadow Removal:** Refined a state of the art architecture (LISA) to remove objects and their shadows completely from their images leaving the background intact using inpainting via a UNet architecture and partial convolutions. Used **Python, Google Colab, Docker** concepts of **Deep learning, Object Detection, Image Segmentation**
- **Emotion Recognizer:** A tool for recognizing 6 different emotions trained on the FER2013 dataset achieving 60% accuracy(SOA 70%). Used **deep learning** architectures including InceptionV3, ResNet, VGG with various preprocessing techniques, optimizers and activation functions. Used **Python**, **Keras**, **Tensorflow**, **Seaborn**, **Pytorch, Numpy**, **Pandas**.
- **Apollo-stars:** A student management and registration system. Included authentication, course registration, scheduling, job applications, grading, reporting. Designed using **Vue.js** and **Vuetify** on frontend and **NodeJS**, and **PostgreSQL** for a Restful-API.
- **Grocery-Crawler:** An automated online grocery store crawler and scrapper to scan items and their prices from popular grocery stores in Pakistan and compare prices and products from different stores. Uses **Selenium, Beautiful Soup** and **Python**
- **SirReal:** A 2D side-scroller with core mechanics of combat and negotiation, developed using **Unity** for Game Design course at university, included model, level and mechanic design, NPC automation & an unprecedented in-game bargaining system.
- **EmployAi:** An experimental Machine Learning project that aims use Key Performance Indicators(KPIs) to train a model to predict employee effectiveness in an organization, to determine areas of improvement. Using **Python, Scikit, TensorFlow and Keras**.
- **Defender:** Developed and documented a side scrolling space shooter game with my team for a course project. Followed object oriented software development practices, design patterns. Employed the **SDL2 Library, C++, UML**. Developed on **Linux**.
- **SnakeX3:** A game on Unity that dealt with the idea of playing the traditional snake game but in three dimensions adding extra complexity and a non traditional approach, was never published as UI was not refined enough. Used **Unity and C#**.
- **D2F-digital to functional:** A tool, developed as a project for a CS course, that aims to help students in college in Logic Circuit Design, Simulation, and Boolean Algebra Solving with sleek UI and a robust design. Used **Java, JavaFX, CSS and FXML and UML**.
- **Evacuation Elevator:** Designed as a course project; using Digital Design and Controller Design. Programmed a processor for an elevator to vacate passengers from a number of floors. Used **Basys3 System-Verilog, C++ and High Level State Machines**.

Skills

Core: Python | Java | C++ | Dart | C# | Unity | Flutter | Node.js | ReactJS | Vue.js | Spring-Boot | Selenium | SQL | Qt | Machine Learning | Computer Vision | Deep Learning | Full-Stack Development | Git | Jira | CI/CD | Databases | Docker | Linux | Android Development | BLE | OOP | OOSE | Data Structures | JavaFX | XML | Design Patterns | SystemVerilog | Game Development

Supplementary: Public Speaking | Project Management | Administration | Proposal and Report Writing | Research, Analysis
Languages: English | Turkish | Urdu | Hindi | Punjabi