Rohan Krishna

Full Stack Developer
Project Manager

LANGUAGES & FRAMEWORKS

- JavaScript
- Java
- HTML/CSS
- Python
- Django
- Flask
- PHP
- C
- C++
- Verilog & VHDL
- Ruby on Rails
- SQL/NoSQL
- MATLAB
- NodeJS
- AngularJS
- ExpressJS
- ReactJS
- React Native
- Adobe Experience Manager
- Adobe Marketo

CONTACT DETAILS

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PROGRAMMING EXPERIENCE

Highlights of my Programming Experience/Journey

Java

Fractals, Data Structures, machine learning, planning and reinforcement learning

- Using puzzle games to program reinforcement-learning based search algorithms (8-puzzle and FWGC)
- Expert system simulation through programming response based decisions

HTML/CSS & PHP

Full-fledged website design with CSS, JQuery and Javascript

- Certified through W3Schools
- Interactive web based chat application with user recognition and chat history
- LMS Frontend with cutom CSS and independent implementation of grid frameworks (w/o bootstrap)

Python

Machine learning algorithms for processing iris data sets and genetic key datasets, creating and interpreting data frames

- Algorithms to create run and interpret datasets in a Digital Organism Simulation Environment (DOSE) as well as iris Data sets for model training in the creation of private DNA sequences for algorithmic processes

Django & Flask

Backend Server Framework

- A-synchronous API framework delivering and recieveing/interpreting multiple forms of data and encrypting data for processing.
- Third Party integrations for notifications, continual messaging and analytics.

C

Process synchronization algorithms, semaphores, monitors, RPCs, shell programming

- Semaphore & Monitor based process synchronization applied to deadlock avoidance problems (Single Lane Bridge problem)
- Pipe creation and communication for pseudo random results to Prisoner's Dilemma
- Connection-oriented RPC - based mailbox server and its clients with Linux remote procedure calls (Finite Source Problem)

C++

App Creation, Semaphores, Shell Programming

- Certified through Microsoft
- Semaphore & Monitor based process synchronization applied to deadlock avoidance problems (Single Lane Bridge problem)
- Simple E commerce application to connect local parts vendors to PC Enthusiasts

Verilog & VHDL

Sequential networks, counters, Arithmetic computational blocks, FIR filters

- Implementation of an audio processing, visualization, and display system much like a high-end digital stereo. ADC input with FIR filter implementation to separate high and low frequencies and output through board, PWM motor and visual screen representation
- (A)synchronous Finite State machine Implementation, Register Based Design, FIR Filter implementation

MATLAB

Software development, object-oriented design, Machine Learning

- Training a linear classifier on the iris dataset by implementing gradient descent to optimize the decision boundaries

NodeJS, Express, and Angular

Full Stack Development, Multi-Platform API integration, Multi Database Integration, REST Framework

- i18n implementation
- Front End interactive experience for customers in a jewelry Chit program, porting existing software functionality from .net to a MEAN stack
- Full Stack Application implementation on the Express Framework to provide easy to understand, speedy implementations of Tax Return Filing functionality

ReactJS

JWT Token Implementation, Class based design, Hooks based design

- CDN Network and Content Reach Analytics platform, with a serverless NodeJS backend (express based routing)
- Fingerprint analysis platform with frontend subdomain routing for pseudo-custom sites (similar to WordPress)
- Customer Chat/ticket desk software front-end to interact with and help website visitors
- Robo-investment advisor platform for wealth managers

Adobe Frameworks (AEM, Adobe marketo)

Client interactive website creation (including amp), Business, SEO Analytics and Consultation

- Creation of specific websites for clients, as well as the training/ mentoring of new trainees in AEM. Creating scripts for the automatic creation of amp websites
- Business & SEO analytics as well as graphic analytics for focsuing appeal on a specific audience subset to promote product engagement

SQL & NoSQL

Database Creation and migration using MySQL, Postgres, MongoDB, SQLite

- SQL file incorporated with rails for website deployment/ user management
- Interconnected databases with multiple collections for creating and filing tax returns along with automated collection, payment information storage etc.
- Stitch Implementation for Native MongoDB CRUD on Android

Ruby on Rails

Server Deployment and maintenance, Database management, Enterprise CAS login

- Server Deployment through nGinx for day to day interactive game (Humans vs. Zombies). Live Changes, Website Overhaul, player type differentiation and Database migration
- Server Deployment through Apache2 for Interactive Learning Management System. Live Changes, Database deployment and migration along with interactive student chat and room reservation system
- RubyCAS for enterprise/ organization login

React Native

Common Mobile App Code base, UI Components, API Component Creation

- Simple E Commerce applications to find out part compatibility and connect with local vendors for building PCs
- Customer Chat/ticket desk Component Creation with a firebase DB integration as well as DialogFlow implementation to automate the first 3 rungs of choices before guiding people to a human agent

PROJECT MANAGEMENT EXPERIENCE

Some of the Interesting Projects I've led over the years

AR Based Museum Tour System

Cleveland Museum of Art - 2016

- Augmented Reality system integrated with museum analysis tools to provide up to date information about artworks as well as show layers of painting structures analyzed and prerecorded by Museum curators and Analysts.
- Built on XCode using Swift using Apple's ML training models

AR Based Neural Stimulation Application for Veterans

Princeton Hackathon - 2017

- Creating a mobile application for people who need neural stimulation for physical therapy in order to help them have affordable access anywhere

Learning management System with Integrated Video office hours

Case Western Reserve University - 2018

- Learning Management system with inbuilt quizzes, office hours, communication system etc to provide a all in one learning system for students to access from anywhere in the world
- Built on RoR

AMP Automation Beta

Adobe, Sherman Williams Cleveland - 2018

- Automation of Old Pure HTML based system to AMP compatible pages as well as simple component creation system for Sherman Williams to create their own components for samples and inventory as needed
- Built using Java, using the AEM framework

Grocery Bargain Seeker

Case Western Reserve University - 2018

- AR Based system to scan bar-codes and pick up the best prices in the surrounding pre-determined radius as well as commonly bought together suggestions.
- Built on Android

TAX360

Infographic Analytics - 2020

- Automated tax calculation system for individuals filing taxes in India with a pipeline into personalized customer support.
- Written using Node & ExpressJS with React Native for mobile, deployed with AWS Lambda

WAI

Ajackus Consultancy - 2021

- Advanced self-assessment solution that provides automated white labeled reports for understanding the personality strengths, and weaknesses of an individual using Dermatoglyphics.
- Written with a Flask backend serving a ReactJS frontend with AWS auto deployment into EC2 servers. Hybrid integration with Drupal for Blog CMS purposes

MPP Data Portal

Ajackus Consultancy - 2021

- Data Management portal for UN Organisation to coordinate between Industry partners and capture multiple different types of data.
- Built with automated data checking and patent expiry management to allow for legal and ethical compliance
- Written with a Django backend serving a ReactJS frontend with Jenkins auto deployment into EC2 servers.

3rd Degree

Ajackus Consultancy - 2021

- Dating app for people in relationships or on first dates, to provide icebreakers and prevent awkward pauses.
- Included a complete refactor of the application after a take-over from another tech team
- Written with a Laravel PHP backend, and an ionic application framework alter refactored to React Native.

SIDE PROJECTS

Some Personal Projects I found Interesting and pursued on my own

GUI for PGP Encryption

- Intuitive and simple GUI for PGP encryption on Windows. Takes an existing file and depending on button click will either decrypt or encrypt message
- Encrypted message will be displayed
- Decrypted message will require correct password (from the key) before displaying

Humans Vs Zombies (Live Interactive Game)

- Interactive website for day to day player interaction
- Live updates and changes based on player input
- Player type differentiationCAS SSO based on RubyCAS
- Webhook Implementation for future mobile APIs

Custom Linux Desktop Environments

- Created using OpenBox
- v1: Arch Linux v2: Gnome
- Simple Mate Environment based on Material Design Logic

Algorithmic Genetic Transport System

- Uses VRPTW base and solved the problem using customised Genetic Algorithm and Best Cost Route Crossover.
- Genetic Delivery System to introduce noise to DNA strands to provide one way salt/hash in order to implement Privacy