Abhishek Mitra

Computer Science, General (Spring 2022 – Spring 2023)

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Portfolio Website: https://portfolio-recluse.wn.r.appspot.com | amitra08@usc.edu | github.com/indoctrinatedrecluse

Coursework

• Analysis of Algorithms • Database Systems • Web Technologies • Foundations of Artificial Intelligence
• Operating Systems • Information Retrieval and Web Search Engines • Game Engine Development

GPA: 3.54/4.00

Experience

INTEGRATION CONSULTANT | DIGITE INC | 06.01.2021 – 11.04.2021 | MUMBAI, INDIA
Work: • Data integration and pipeline building • QA in DevOps • Automated Testing • Building an auto-monitored framework for data integration between platforms like Salesforce, SwiftKanban, Jira, Rally, Azure DevOps • Wrote own registry and auth APIs, wrote own tests, wrote own deploy, integration and health monitoring pipelines, config scripts • Followed ScrumBan (Agile)
Stack: • Apache Nifi, Kafka, Spark, MongoDB (Robo3T) • JUnit, Cucumber for testing • Jenkins pipelines and self-written Nifi/Nifi Registry APIs • Vault, Snaplogic, SpringBoot (auth/microservices) • Tekton for Kubernetes (AWS host) maintenance scripts • Terraform for AWS setup • Groovy, ECMA and JS/TS to write Nifi scripts • Google Chat API to send auto-bot messages on status change/failure • React frontend • SwiftKanban API

SOFTWARE ENGINEERING INTERN | MICROSOFT IDC | 05.11.2020 – 07.03.2020 | BENGALURU, INDIA
Work: • Porting MS Teams from Angular to React • Communication bridge between Teams microservices • Suggestive autocorrect system on the search results page based on searches from connected Microsoft services like Office, Sharepoint and Teams contacts/documents
Stack: • React, Angular frontend (TS) • GraphQL and Azure backend • Microservices (calling, chat, compression, contacts, meet)

MANAGEMENT INTERN | CHILD RIGHTS AND YOU | 05.07.2018 – 06.07.2018 | KOLKATA, INDIA
Work: • Non-technical (management) • Managing a fundraiser at the Indian Museum, Esplanade, Kolkata (gathering sponsorship and a distinguished guest list) • Interview applicants for and help organize the yearly CRY MUN (Model United Nations) • Helping educate economically challenged students in designated areas in Kolkata • Acquiring accommodations for the same through sponsorship from local authorities

Projects

All these projects and more are hosted at my portfolio website!

PORTFOLIO WEBSITE | ANGULAR (WEB – GCP)
Work: My portfolio website detailing skills and contact info, with links to hosted projects.
Stack: • Angular • JS/TS • Jquery • Bootstrap 5 • Shell • Express • NodeJS

ARTIST SEARCH | ANDROID, ANGULAR (WEB – GCP)
Work: Complete website to search paintings by various artists, view their info and discover similar works and artists.
Stack: • Angular • JS/TS • Jquery • Bootstrap 5 • Shell • Flask • Express • NodeJS • Axios • Artsy API • Android Studio

WEENIX | TOY OS (LINUX - QEMU)
Work: Took boilerplate WEENIX code from Brown University and implemented processes, threads, schedular, ramfs, sf5s, threading (MTP), garbage collection, required tests, filesystem management, forking, basic shell with 18 commands
Stack: • C • Python • Assembly Code • GNU Debugger • C++ • Shell • Linux • QEMU

FORUM AND CHAT | WEBSITE
Work: Made a forum with posts (which have upvotes and comments), private and public chat, and a user registration system coupled with a maintenance page for site admins, with optimization for mobile devices
Stack: • html • Php • MariaDB (SQL) • css • JS • Jquery (AJAX) • FontAwesome • Bootstrap

COMMUNITY APP | WEBSITE
Work: Social media site inspired by StackOverflow, with threads, up/downvotes, comments and chat, written in Java (DAO model)
Stack: • html • Java • OracleSQL • css • JS • Jquery (AJAX) • FontAwesome • Bootstrap

DIGITAL VENTRILOQUISM | DJANGO APP
Work: App which masks one's face with 2D models and tracks their movement with inbuilt expressions, voice modulation and chatting options
Stack: • html • css • django • python • JS • redis

SPATIAL DATA | CODE
Work: Experiment with spatial data in various formats, and transforming the data into topographical representations
Stack: • JS • KML • PostGRES • python • R • Pipelining tools

WHATSAPP API | APP
Work: Simple client for WhatsApp auth and messaging without file sending/pay support
Stack: • Go • Shell • WhatsApp API

PRIME ENGINE | GAME ENGINE
Work: Developing various component systems for the Prime Engine written by Prof. Artjoms Kovalovs, USC
Stack: • C++ • C# • Python • LUA • Maya • VS Solutions • Shell • CygWin • C

Extracurriculars

• Creating (game) trainers using semi-auto/LUA/search saver scripts/Cheat Tables (Cheat Engine) to use with modding game currencies (and more) locally • Writing (Nifi) pipelines to automate various tasks, running as startup daemons
• Raster graphic renders on Photoshop, GIMP (Linux) • Post processing on After Effects, Lightroom
• Texture modding on DAO Toolset, texmod, Photoshop, Maya • Basic terrain and level design on 3DSMax/Maya
• Basic behavioral, terrain, level, character design on Character Animator, Unity • Engine systems design on PrimeEngine (USC) • Basic beat production on FLStudio • VR work, stitching multi-kinecam footage from various angles, streaming and rendering on client system with Unity VR
• Making training/automaton sets for various objects in a VR simulation setting using iGibson (Stanford) while at ICAROS Lab (USC) • Writing texture/behavior/plot mods for games (Skyrim, Mass Effect, Dragon Age etc), usually posted to NexusMods • Writing short prose (published in Ruskin Bond's magazine)
• Trying out Windows Insider Builds, new Linux distros, playing with Kali Tools like Metasploit, terminal tweaks like xiki • Editing videos with Filmora • Playing the keyboard • Playing chess and learning openings and strategy
• Swimming, reading literature and mythology • Trying out new languages like Go, Rust and different shell scripters