Tahmid Khan

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Education

University of California San Diego

B.S Computer Science

Minor in Mathematics

Major GPA: 3.80

September 2015 – March 2019

Coursework

Algorithms

Computer Vision

Programming Languages

Principles of Computer Operating Systems

Data Structures and Object-Oriented Programming

Computer Organization and System Programs

Math for Algorithms and System Analysis

Advanced Data Structures

Software Engineering and Design Patterns

Artificial Intelligence

Machine Learning

Computer Architecture and Processor Design

Recommender Systems and Web Mining

Full Stack Development and UI Testing

Computer Graphics

Distributed Networking Systems

Computer Security

Links

Personal | https://tahmidk.github.io/tahmidk-react

GitHub | https://github.com/tahmidk

LinkedIn | www.linkedin.com/in/tahmidhkhan

Skills

Programming: HTML, CSS, JS, Python, Java, C, C#, C++, ARM Assembly, MIPS Assembly, OCaml, Prolog, Verilog HDL, R Statistics, SQL, OpenGL, React

Software: GitHub, Android Studio, R Studio, Unity Game Engine, 3DS Max, Quartus Prime, ModelSim Altera, ZenHub, Firebase, JUnit, Google Play Services, Expresso, MATLAB, PyCharm, Eclipse, VS 2017, VS Code, Jupyter Notebook, VirtualBox

Projects

Optimized Graphical Raytracer

Winter 2018 | University of California San Diego

- Created a C++ program that takes as an input a file of scene building commands and applies the Raytracing algorithm to render pixel-by-pixel the scene indicated by the user. Applies relevant mathematical formulas to generate reflections, shadows, and emulate lighting. Implemented the Bounded Volume Hierarchy acceleration algorithm for rendering computationally intensive scenes.
- Gained extensive experience implementing and debugging in the Visual Studio IDE

Python Context-Based Novel Translator

Fall 2018 | University of California San Diego

- Created a python application that makes use of a Google Translation API to web scrape individual or batches of online Japanese web novels and perform a special context-based translation given a user-defined .dict file as the context. Script successfully produces more readable translations through disambiguation of known story entities as story-specific character names and settings.

EnDMe Microprocessor Design

2018 | University of California San Diego

- In a team of two, designed from scratch a full custom instruction set architecture and single cycle modular CPU design, datapath, and control. Optimized for encrypting and decrypting short messages using the MIPS architecture for reference. Designed using System Verilog for synthesis and model sim for testing.

Android Music App – Flashback Music

2018 | University of California San Diego

- Developed an android app that can be configured to play select nostalgic music chosen by the user at given locations. If a user plays a certain song at a given location, time and day, if the user returns to that location in the future, the music player will more likely play that song. App implemented with the Android Studio IDE.
- Development team of 6 employing Agile development cycle principles to thoroughly plan, implement, and deliver the app. Gained working experience of full-stack organized app development, ZenHub and application of various software design patterns as well as experience with JUnit and Expresso for code and UI testing.

Unity Game Project – Modern Chess

Summer 2017 – Present | University of California San Diego

- Designing a 3D Unity game using the Unity editor. Game is a chess game with items obstacles, terrestrial mechanics, and custom chess board designs/terrains. Programmed object oriented and well-encapsulated scripts and game logic in C#. Worked with 3DSMax for basic game object designs.

Android Emoji Keyboard

2016 – 17 | University of California Los Angeles

- Programmed android keyboard with a button to insert emojis based on facial expression using Microsoft's cognitive recognition API in a team of 4. Team divided work by pair; my subteam was mainly responsible for front-end development and implementation of a keyboard button to trigger Microsoft cognitive recognition function.

Java Game – Ultimate Tic-Tac-Toe

2015 – 16 | University of California San Diego

- Programmed a multiplayer game complete with a menu, graphics and animations based on the JavaFX library and demonstrated project at a project fair.

Experience

AICPS Lab – Soft PLC Project Programming

Summer 2018 – Winter 2018 | University of California Irvine

- Under supervision of Prof. Al Faruque, completing software portion of a Soft PLC System Resilience project. Analyzing and dissecting Beremiz, an open source PLC Automation editor, to run PLCs on specific cores simultaneously via a custom scheduler.
- Programming in Python, gaining experience in multithreading, manipulating processes, using remote server proxy objects and MATLAB Simulink.