Jirawat Hirunkam

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EDUCATION

Florida Gulf Coast University, **Ft. Myers, FL** **August 2015 - May 2019**
Major: Software Engineering, B.S (GPA: 3.51)

EMPLOYMENT

VIPER Lab Research Assistant, U.A Whitaker College of Engineering, Florida Gulf Coast University,
https://www.fgcu.edu/eng/softwareengineering/viperlab/index.aspx **January 2018 – Present**

Real Time FGCU Fluid Dynamic Flood Simulation

- Developed a real time 3D flood simulation of Florida Gulf Coast University campus to allow researchers to visualize the hydrodynamic effects of flood on the campus by utilizing Nvidia Fluid Dynamic Engine and Unreal Engine 4.
- Optimized and increased the performance of the fluid dynamic engine by 40% to allow smoother rendering of the simulation by manipulating Unreal Engine 4 particle system to utilize GPU more efficiently.
- Leveraged knowledge in Unreal Engine 4 development with C++ using Visual Studio and Blueprint Visual Scripting, Photogrammetry with Autodesk Recap, and Nvidia Cataclysm fluid engine.

Eagle Expo VR Demo

- Developed an interactive architecture visualization game to allow students and faculties to study a construction project in virtual reality.
- Integrated the Precision Positional Tracking (PPT) infrared camera sensors to a Corner Cave VR System to provide the millimetric precision tracking of a user which would allow them to immerse more into the VR environment.
- Leveraged knowledge in Vizard development using Python, PPT System, Corner Cave VR projection, and 3ds Max.

Syd.ai (startup), Naples, FL **Jan 2019 – June 2019**

Machine Learning

- Built an Enterprise Resource Planning (ERP) inventory mock data to be used for Machine Learning
- Developed a Machine Learning Model to make helpful predictions for businesses
- Leveraged knowledge in Python 3, Data Pre-processing with Pandas and NumPy Array, Artificial Neural Network with Keras and Scikit-Learn

PROJECTS

Personal Website: https://jirawathirunkam.github.io/website/ (for additional information and projects)

FGCU VR Flood Simulation

- Lead a team of 6 software engineering students to develop a scientific virtual reality simulation software that provides an immersive flood visualization caused by hurricanes on Florida Gulf Coast University campus based on real hydrology data.
- Implemented a pseudo dynamic water effect based on hydrology point cloud data to provide realistic graphics rendering.
- Applied unit, functional, and integration testing to test if the software meets the requirements and specifications.
- Utilized: C++ and Blueprint visual script programming, UE4 Procedural Mesh Generation, Git, Hybrid of Waterfall and Agile SDLC, Automation Unit Testing Tool from UE4, Goolgletest for C++, GNU LCOV tool for branch and statement coverage, Blender, Photogrammetry with Drone Deploy, Oculus Rift, and Corner Cave VR projection

ADAM

- Built an Automatic Directional Antenna Mechanism (ADAM) device and its software to search nearby cellular signals and amplify the best found signal so that users can rely on their mobile device for better internet service through LTE.
- Utilized: Python, C, Java, Raspberry Pi, Servos, Arduino, and Android device.

SKILLS

Proficient: C++, Python, Java, Waterfall and Agile Software Development Life Cycle, Git, Jira, Visual Studio, and Unreal Engine 4 Development

Familiar: JavaScript, HTML5, React, CSS, SCSS, H2 SQL, Unity 5, Blender, 3ds Max, and, Photoshop