Ashik **Salim**

Software Engineer

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Summary

Software engineer across multiple domains for 7 years, with a prime focus on Microsoft Mixed Reality technologies. Seeking ways to apply technology ethically for betterment of humanity.

Work Experience

Reply Valorem

Kerala, India

Software Engineer

September 2014 - Present

- **XPresent:** Rich content presentation application which enables users to present interactive elements such as 3D models and real-time on-screen drawing
  - Investigated Apache licensed hand recognition model from Mediapipe by Google and converted it into ONNX, enabling native inference on UWP via WinML
  - Developed a simple state machine for hand recognition with 5 gestures and experimental drawing support
  - Modified Directshow based virtual webcam to work with UWP, enabling easy interfacing with existing meeting solutions like Microsoft Teams
- **HoloBeam:** 3D Telepresence application that captures color and depth information from Kinect, transmits it over the internet and enables viewing it as a hologram using HoloLens on the remote end
  - Developed native plugin for Unity3D written in C++ which achieved hardware accelerated video decoding and interoperability with WebRTC libraries
  - Developed a custom codec for encoding and transmission of depth data over a traditional H.264 video stream
  - Ported WebRTC implementation by Google to the UWP platform, with focus on maintaining compatibility with code and build systems used by upstream
- **HoloFlight:** 3D Real-time and historic flight data tracking and visualization on HoloLens
  - Developed a system to parse, filter and store positional data of flights from a web api and accurately animate 3D representational objects in a scale to world 3D space based on this data, while maintaining strict chronological accuracy
  - Developed a real-time procedural terrain mesh generator using Bing maps api, combining both satellite image overlay and height maps
- **Azure Spatial Anchors Showcase:** Android/iOS application that allows users to load 3D models and place them in real world to demonstrate the capabilities of Azure Spatial Anchors by Microsoft
  - Developed multi-user synchronized object manipulation module based on SignalR
  - Wrote native plugins for Android, iOS to enable MSA authentication in a Unity3D application using MSAL library by Microsoft

Education

Bachelor of Technology in Computer Science

Kerala, India

Govt. Model Engineering College

May 2010 - April 2014

Recognitions

HoloBeam, Presented at keynote of Inspire 2018 by Satya Nadella — *July 2018*

HoloBeam, Showcased at CES 2018 by invitation from Microsoft — *January 2018*

HoloFlight, Showcased at Unite India 2017 — *November 2017*

Certifications

Neural Networks and Deep Learning, Coursera — *December 2019*

Improving Deep Neural Networks, Coursera — *January 2020*