# Ashik **Salim**

SOFTWARE ENGINEER

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## Summary

Software engineer across multiple domains for 8+ years, with a prime focus on Microsoft technologies - Mixed Reailty, Azure, WinML, UWP, WPF. Worked on multiple applications developed for HoloLens in Unity3D, multiple of them showcased internationally. Recently diversified to acquire experience in Machine Learning and Rust langugage.

## Work Experience

**Reply Valorem**                                                                                       *Kerala, India*

SOFTWARE ENGINEER                                                                           *September 2014 - Present*

- HoloBeam: 3D Telepresence application that captures color and depth information from Kinect, transmits it over the internet and recreates it as a point cloud in HoloLens.
    - Developed native plugin for Unity3D written in C++ to enable hardware accelerated video decoding and transport over WebRTC.
    - 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.
- HoloFlight: 3D Real-time flight data tracking and visualization on HoloLens, developed in Unity.
    - Developed a system to parse, filter and store flight position data and represent this using 3D objects viewable in Mixed Reality.
    - Developed a real-time procedural terrain mesh generator using Bing/Google maps api, combining both satellite image overlay and height maps.
- XPresent: Rich content presentation application which enables users to present interactive elements such as 3D models and real-time on-screen drawing.
    - Converted hand recognition model from Mediapipe by Google 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.
- Video streaming application on Xbox UWP for one of the biggest media/animation companies in the world.
    - Implemented multiple advanced UI features, including completely original UWP Composition based animations and effects.
- Live sports video streaming for leading sports network, developed in Rust.
    - Developed UI and interfacing layer against a custom Rust backend which targeted WebAssembly.
    - Performance targeted to run on smart TVs and other limited computational devices.

## Education

**Bachelor of Technology in Computer Science**                                                           *Kerala, India*

GOVT. MODEL ENGINEERING COLLEGE                                                            *May 2010 - April 2014*

## Recognitions

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

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

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

**HoloFlight**, Presented at NASTech 2022                                                           *December 2022*

## Certifications

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

**Improving Deep Neural Networks**, Coursera                                                         *January 2020*

**Microsoft Certified: Azure AI Engineer Associate**, Microsoft                                         *March 2023*