

# ABDUL MUKIT

Senior Software Engineer: Computer Vision, Machine Learning

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## Experience

### Mujin-Corp

July 2025 - Present

Senior Computer Vision Engineer

Atlanta, GA

- Lead deep learning based computer vision solutions development, testing, and deployments.
- Lead data collection, cleaning, and annotation process for model training and testing.
- Perform regular code reviews for readability and architecture consistency.
- Write and maintain regression tests for existing and new features.

### Mujin-Corp

May 2023 - July 2025

Computer Vision Engineer

Atlanta, GA

- Trained and deployed an instance segmentation model, increasing detection speed by 800% and production rate by 50%.
- Led Mujin's AI research and software development.
- Collected, distilled, and annotated a large warehouse dataset of 20,000 images.
- Developed point-cloud processing algorithms enabling Mujin robots to pick damaged and tilted items.

### Nakamir

February 2022 - April 2023

Computer Vision Engineer

Mountain View, CA

- Software development of Nakamir Augmented Reality Assistant (NARA).
- Integrated human body pose estimation using the depth sensors in the Hololens-2.
- Performed camera calibrations and addressed perception pipeline issues.

### University of Oklahoma

August 2018 - December 2021

Graduate Research Assistant

Norman, OK

- Developed FDA-approved surgical planning augmented reality software for human surgeries.
- Developed vision software to detect the 6-DoF pose of the human head and surgical instruments during surgery.
- Annotated 2D and 3D data for machine learning model training.

## Projects

### Walmart Robotic Depalletizing Vision System | *PyTorch, OpenCV, ONNX, PCL, CVAT, Voxel51* 2024

- Optimized vision system to run on CPU at 2-FPS and integrated with the robotic system, enabling 1200 picks per hour.
- Developed 6-DoF pose estimation and geometric vision pipeline using OpenCV and Point Cloud Library.

### Package Condition Sensitive Point Cloud Filtering | *OpenCV, PCL, Numpy, Python* 2024

- Implemented package condition (damaged or tilted) estimation algorithm for cardboard boxes and packs of cans.
- Developed 3D point cloud filtering algorithms for damaged and tilted items using OpenCV and PCL.

### Intraoperative Virtual Surgical Planning | *OpenCV, PyTorch, Unity, C#, C++* 2022

- Developed mixed reality software using Unity, Mixed Reality Toolkit, and Microsoft Hololens-2.
- Licensed the developed x-ray vision technology to a startup for commercialization.

## Education

### University of Oklahoma

December 2021

MS in Computer Engineering. Graduate Fellowship. GPA: 3.88

Norman, OK

### United International University

May 2014

BSc in Electrical Engineering. Full Scholarship. GPA: 3.83

Dhaka, Bangladesh

## Technical Skills

**Libraries:** PyTorch, OpenCV, PCL, Open3D, CVAT, Voxel51, Numpy, Tensorflow, ONNX

**Languages:** Python, C#, C++

**Technologies/Frameworks:** Linux, GitHub, Grafana