

# Shamanthak Hegde

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## EDUCATION

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**Master of Science, Computer Science** *Aug. 2023 – Present*  
*Arizona State University* *Tempe, AZ*

**Bachelor of Engineering, Computer Science - GPA : 8.18/10** *Aug. 2019 – July. 2023*  
*KLE Technological University* *Hubballi, India*

## EXPERIENCE

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**Software Engineering Intern** *Feb. 2023 – June. 2023*  
*Bosch Global Software Technologies* *Bengaluru, India*

- Worked on a product DeviceBridge that collects data from shop floor devices and deliver it to upstream servers.
- Developed a Python scripting feature for users to write business logics on the data in Python, with C# and .NET.
- Explored ways for faster data acquisition.

## PROJECTS

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**Unified-X: A Unified approach for Multimodal Explanations in VQA** | *Pytorch* *Aug. 2022 – Feb. 2023*

- Built a method to generate visual and textual explanations for VQA and TextVQA.
- Used a multimodal transformer to generate answers and explanations in a single sequence.
- Achieved state of the art results with a CIDER score of 112 on VQA explanations and 58 on TextVQA explanations.

**Crop Detection using Satellite Images** | *Python, Pytorch* *Jan. 2022 – May. 2022*

- Built a method to detect the crop present at a particular land based on the time-series Sentinel Satellite imagery.
- Used a pretrained CNN and LSTM to extract the image features to classify the images.
- The task was part of a competition “Spot the crop” by Radiant Earth and secured a rank in the top 20%.

**Image Classification** | *Python, Pytorch, Java* *Aug. 2021 – Dec. 2021*

- Led a team and built a CNN for Image Classification on manually collected images by the students of KLE Tech and deployed the model to an Android Application.
- Used Pytorch to build the CNN to classify the images and used Java in Android Studio to build the android application and deploy the model to it.

**Event Management System** | *Python, MySQL, Django, Angular* *Jan. 2021 – May. 2021*

- Developed a full stack web based application which allows customers to book an event with all their requirements and it allows the owner to organize and manage all events booked and view all data stored in a database.
- Implemented frontend with Angular, backend with Django and database with MySQL.

## PUBLICATIONS

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- **“Making the V in Text-VQA Matter”**  
**Shamanthak Hegde**, Soumya Jahagirdar, Shankar Gangisetty.  
Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2023) Workshops.
- **“Weakly Supervised Visual Question Answer Generation”**  
Charani Alampalle, **Shamanthak Hegde**, Soumya Jahagirdar, Shankar Gangisetty.  
Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2023) Workshops.

## TECHNICAL SKILLS

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**Languages:** Python, C/C++, C#, Java, JavaScript, HTML/CSS  
**Frameworks:** React, Node.js, Angular, Pytorch, Tensorflow, MMF  
**Developer Tools:** Git, Docker, VS Code, Visual Studio, PyCharm, Jupyter, Mongo, SQL