VeeraVenkataRamMuraliKrishnaRao Muvva

Curriculum Vitae

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Areas of Interest

Artificial Intelligence, Robotics, Unmanned Aerial Systems, Deep Learning, and Computer Vision.

Education

2019-Present **Ph.D. in Computer Science** , *University of Nebraska - Lincoln, Lincoln, USA* .

2019 **M.S. in Computer Science** , *Mississippi State University, Starkville, USA* .

2015 **B.Tech in Computer Science & Engineering** , *Rajiv Gandhi University of Knowledge Technologies, Nuzvid, India* .

Employment

2016 **Developer**, *TreeSignature*, Worked as a software developer for a e-commerce company, which was a startup then.

2015-2016 **Scientific Trainee**, *Inter University Center for Astronomy and Astrophysics*, Worked for processing images taken by Astrosat, which is a space observatory.

Research

2019-Present **Research Assistant**, University of Nebraska - Lincoln.
Advisor - Dr. Wolf, Dr. Justin Bradley
Co-Design of Neural Networks for Real-Time UAS to UAS tracking, *This project is supervised by Dr. Wolf and Dr. Bradley. It is in the early stage. A deep learning based object detector was implemented for pilot study and it was launched with AirSim Simulator. The next step of project concerns with avoiding delay and achieving real time performance..*

2017-2019 **Research Assistant**, *Center for Advanced Vehicular Systems*, Mississippi State University.
Advisors - Dr. Edward Swan, Dr. Song Zhang
Removing broiler mortality using vision based robot arm , *This project is about to implement a robot which can remove the dead birds in broiler house and put those in dumpster. I worked for the machine vision part of this project to detect dead chickens in the poultry house, it was published in ASABE. This project was supervised by Dr. Zhang and Dr. Zhao.*
Egg Detector, *A CNN based egg detector was implemented to identify the eggs in the given video feed..*
Robots for navigation in poultry house, *Ground robots are implemented and programmed to navigate in the poultry house. SuperDroid chassis was used.*
Depth Perception in Augmented Reality, *A subject analysis study was conducted to understand the depth perception in augmented reality. The study was conducted using HoloLens. This project was supervised by Dr. Swan.*

Publications

Computer Vision	**Muvva V.V.R.M.K.R.**, Yang Zhao, Pratik Parajuli, Song Zhang, Tom Tabler, 'Automatic Identification of Broiler Mortality using Image Processing Technology' 10th International Livestock Environmental Symposium, ASABE, Omaha, NE, September 2018.
Robot Control	**Muvva V.V.R.M.K.R.**, Naresh Adhikari, Amritha Ghimire, 'Towards Training an Agent in Augmented Reality World with Reinforcement Learning' International Conference on Control, Automation, and Systmes, IEEE - Robotics and Automation Society, Jeju, Korea, October 2017.
Machine Learning	**Muvva V.V.R.M.K.R.** 'A Collaborative Filtering Recommender System with Randomized Learning Rate and Regularized Parameter' presented at International Conference on Current Trends in Advanced Computing, IEEE, Bangalore, India, March 2016.
Image Processing	Duvvuri D.N. , **Muvva V.V.R.M.K.R.** 'A Novel Method To Achieve Optimization in Facial Expression Recognition Using HMM' presented at International Conference on Signal Processing And Communication Engineering, IEEE, Guntur, India, January 2015.

Technical Skills

Programming	Python, C++, C, C#, Java
Packages	OpenCV, ROS, Tensorflow, Keras, SolidWorks, Matlab, R, Unity, Vuforia
Web & Server	HTML, JavaScript, PhP, MySQL
Operating Systems	Windows, Linux (Ubuntu, Kubunut, Linux Mint, Fedora)

Course Projects

Detailed Information about each project could be found in my website

Cyber Physical Systems, ***Deep Learning based Marker Detection with Drone***, A marker detector using CNN is implemented. It was attached to TUM simulator such that drone could detect the specific markers. (Video can be found in the website), Fall - 2019.

Robotics Seminar, ***Simulator based Multi Drone Landing***, A method was implemented to land multiple drones autonomously on landing spot. Gazebo based TUM simulator is used for this purpose. (Video can be found in the website), Fall - 2019.

Robotic Applications in Poultry Production (Independent Study), ***Robot for farm house***, A ground robot was implemented to navigate in the chicken farm to alter the lazy chickens. SuperDroid based robot chassis was used., Spring - 2018.

Robotic Applications in Poultry Production (Independent Study), ***Egg Detector***, A CNN based egg detector was implemented to use in poultry house., Spring - 2018.

Machine Learning, ***Animal Classifier***, Implemented a CNN based image classifier to classify a five varieties of animals, Fall - 2018.

AI Robotics, ***AR Robot***, Implemented a reinforcement learning policy for a physical robot to navigate in augmented reality world, where physical as well as virtual threats would be there. (Video can be found in the website), Spring - 2017.

Data Analysis, ***Would you Survive in Titanic?***, SVM based classifier to identify the survival chance of passenger. Find your survival chance through our app. (App can be found in the website), Spring - 2017.

Artificial Intelligence, ***PeaceAgent***, Strategy based RISK playing agent. Our agent won second prize., Fall - 2016.

Algorithms, ***Reinforcement learning for Triwizard Cup***, A reinforcement learning based agent to navigate in maze to reach Triwizard cup by avoiding the threats. Simulated through Unity, Fall - 2016.

Computer Graphics, ***VR view of Butler Hall***, Rendered our department building in VR settings through Unity, Fall - 2016.

Senior Design, ***Movie Recommender System***, A collaborative filtering based movie recommender system, 2015.

Software Engineering, ***Blood Bank Management System***, Designed and implemented a website for blood bank management.

Awards

- Chancellor's Fellowship Award, University of Nebraska - Lincoln, 2019
- Student Research Travel Award, Mississippi State University, for IELSX - 2018

Achievements

- Elected as Vice President Membership of Capitol Voices (Toastmasters Club at Lincoln)
- Selected for RGUKT 6 year integrated B.Tech course among all the SSC pass students in our state.
- Got 4th rank in the ranking system of SYSS, whose aim is to identify the rural background merit students.

Services and Leadership

Conferences

- Reviewer of International Symposium on Mixed and Augmented Reality, 2019
- Reviewer of 25th IEEE Conference on Virtual Reality and 3D User Interfaces, 2018

Toastmasters

- Area Director, C24 - District 24, Jul 2020 - Present
- Vice President (Education), Capitol Voices Club, Jul 2020 - Present
- Vice President (Education), Strictly Speaking Club, Jul 2020 - Present
- Vice President (Membership), Capitol Voices Club, Nov 2019 - Jun 2020

Memberships

- Member of the Upsilon Pi Epsilon International Honor Society for Computing and Information Disciplines
- Student member of IEEE
- Student member of IEEE - Computer Society
- Student member of IEEE - Robotics & Automation Society
- Student member of IEEE Young Professionals
- Student Member of Association for Computing Machinery (ACM)
- Student member of ASABE (2018-2019)

Extra Academic Activites

- I am also curious to write stories. Me and one of my frineds are working on a fantasy novel called 'Haesthiya'.

- Active member of Capitol Voices (Toastmasters Club), Sep 2019 - Present
- Active member of Lincoln Toastmasters (Toastmasters Club), Jan 2020 - Present
- Active member of Strictly Speaking (Advanced Toastmasters Club), , Apr 2020 - Present
- Active member of E.C. Speakers (Toastmasters Club), Jun 2020 - Present