+1 515-708-5077
Ames, IA
chandan1002@gmail.com

Chandan Kumar

Ph.D. Student

GitHub: Chandan1002
LinkedIn: chandan1002

Skills

Tools and Languages Python, Pytorch, OpenCV, Databricks, Alteryx, Ignition, AWS, JAVA, Jenkins, IoT, HTML/CSS, AngularJS, NodeJS, Git, Unix

Communication English (Fluent), Hindi (Native)

Project Summary

Unsupervised Object Detection Algorithm **Jan 2022 — Present**

Designing and developing an object detection algorithm using unsupervised learning.

Real-time Volumetric Analysis **Aug 2021-Mar 2022**

Using Deep Learning techniques to detect, track and determine the volume of an object in real-time using a drone designed and developed by us.

Visualization using Mono and Stereo Cameras **Jan 2019-Aug 2021**

An IoT based framework created utilizing Nvidia AGX Xavier GPU to implement ML techniques in order to impart intelligence to farm equipments and machines. Created a web based framework using HTML, CSS, JS, Python that respond to machine protocols and triggers assisting the operator/driver.

Recent Work Experience

Data Scientist Coop **Jan 2022 — Jan 2023**
Hagie Manufacturing *Clarion, IA*

- Using tools and techniques to perform Text Mining, ML models development for predictive analysis and automation and Computer Vision models.
- Design and develop project pipeline(Data Exploration, Sampling, Feature Engineering, Model Building, Field Performance Evaluation).

Graduate Research Assistant **Jan 2019 — Dec 2021**
Iowa State University *Ames, IA*

- Unsupervised Learning approach to Object-Detection.
- Real-time driver assist system for large farm-vehicles.
- Real-time depth detection and analysis using stereo camera(s).

Graduate Teaching Assistant **Jan 2017 — May 2019**
Iowa State University *Ames, IA*

- COMS 106 (Introduction to programming using HTML5, CSS, PHP, SQL, JQuery, JavaScript). Responsible for helping students understanding concepts, clearing their doubts and grading assignments.

Business Analyst **Feb 2016 — Dec 2016**
EXL(Inductis) Services India Pvt. Ltd. *Gurugram, India*

- Utilized applications like SAS to identify trends and relationships between different pieces of data, draw appropriate conclusions and translated analytical findings.
- Created and worked on various reporting frameworks (Microsoft Excel, Tableau) that involved customer segmentation and clustering exercises for customers

Education

Ph. D. in Computer Science (Focus: Computer Vision, Deep Learning), *Iowa State University* Jan 2017 -
Masters of Science in Computer Science, *Iowa State University* Jan 2017- Dec 2022
Bachelor of Technology in Computer Science (With Distinction), *B.I.T. Sindri* Jun 2015

Publications

Optimal Deep Learning model for UAVs: A Case Study
Chandan Kumar; Ali Jannesari (WMPC 2023) Nov 2023

Deep Learning and Pattern-based Methodology for Multivariable Sensor Data Regression
Jiztom Kavalakkatt Francis; Chandan Kumar; Jansel Herrera-Gerena; Kundan Kumar; Matthew J Darr
(ICMLA 2022) Dec 2022

Efficient Volume Estimation for Dynamic Environments using Deep Learning on the Edge
Chandan Kumar, Yamini Mathur and Ali Jannesari (PAISE @ IPDPS 2022) Mar 2022

Pattern Based Multivariate Regression using Deep Learning (PBMR-DP)
Jiztom Kavalakkatt Francis, Chandan Kumar, Jansel Herrera-Gerena, Kundan Kumar, Matthew J Darr
(LXAI @ CVPR 2022) Feb 2022

Efficient Object Detection Model for Real-Time UAV Applications
Subrahmanyam Vaddi, Dongyoun Kim, Chandan Kumar, Shafqat Shad, Ali Jannesari
(Computer and Information Science) Jan 2021

Honors and Awards

Co-PI, CIS220069, $174,000 grant for Unsupervised Object detection , ACCESS supported by NSF Jul 2022
Invited Speaker at International 7-in-1 Symposium , CGC, Herning, Denmark Jun 2021
Reviewer, NeurIPS 2023, ICLR 2023, JAIR, River publishers Jun 2021
Recipient of Intel Edge AI Scholarship, Udacity Dec 2019
Recipient of PyTorch Scholarship Challenge, Udacity Oct 2018