

JIZTOM KAVALAKKATT FRANCIS

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PROFESSIONAL SUMMARY

Innovative data scientist with over 4 years of experience in machine vision and machine learning, specializing in developing advanced predictive models and data visualization tools. Proficient in Python, MATLAB, and SQL, I've successfully enhanced data handling efficiency and improved agricultural data accuracy through pioneering techniques in object detection and sound-based insect detection. My standout achievement includes creating the 'Wanda Vision Platform', which significantly boosted real-time sensor data visualization capabilities.

EDUCATION

Iowa State University <i>PhD, Computer Engineering</i>	May 2025 <i>GPA: 3.82</i>
Iowa State University <i>Master's, Computer Engineering</i>	August 2017 - December 2019 <i>GPA: 3.92</i>
Anna University <i>Bachelor's, Electrical Engineering</i>	August 2013 - May 2017 <i>GPA: 7.6</i>

PROFESSIONAL EXPERIENCE

Iowa State University <i>Digital Ag Graduate RA—Machine Vision/Machine Learning</i>	Ames, IA, USA <i>January 2020 - Present</i>
<ul style="list-style-type: none">Enhanced open-world detection capabilities by developing advanced image segmentation and object detection techniques, improving agricultural data precision and user requirements.Improved data handling efficiency by implementing end-to-end data solutions through the development of SQL Server data loaders and preprocessing pipelines.Boosted user engagement and decision-making by utilizing Tableau to streamline data visualization tools for agricultural insights.Enhanced image-based predictions in agri-tech by conducting advanced research on image segmentation and refining ML algorithms.Published insightful research on Pattern-Based Multivariable Regression and Sensor Data Regression, pioneering novel techniques in sound-based insect detection.	
3M <i>Data Science and Engineering Intern</i>	Remote <i>May 2023 - August 2023</i>
<ul style="list-style-type: none">Enhanced airflow sensor testing efficiency by 15% by implementing end-to-end data analytics and visualization using Tableau, as part of designing the 'Dewey Duct Project'.Improved accuracy of wound imagery modeling by facilitating agile project management and utilizing Jira for tracking progress in a U-Net based data pipeline.Developed a real-time sensor data visualization tool, the 'Wanda Vision Platform', by engaging in cross-functional team collaborations using Miro and Smartsheets.Drove innovation and project execution during cross-functional brainstorming sessions by addressing user requirements and integrating feedback.Contributed to the ideation and execution of data projects within a data lake environment by utilizing project management tools like Smartsheets and Tableau.	
Iowa State University <i>Engineer Designer II/ Engineer I</i>	Ames, IA, USA <i>January 2020 - December 2020</i>
<ul style="list-style-type: none">Enhanced data integration efficiency in digital agriculture projects by engineering GPS tagging and third-party integration, facilitating comprehensive data analytics.Increased documentation efficiency by 30% through the development of a custom Android app for efficient image capture and documentation, aligning with end-to-end project management practices.Improved data backup efficiency by 40% by streamlining data analytics with automated SQL operations and scripting, contributing to enhanced data lake management.Boosted file system flexibility in research by pioneering VM products for ext4 compatibility, supporting agile methodologies and project management tools like Jira and Miro.Enhanced crop loss prediction accuracy by applying MATLAB for in-depth satellite imagery analysis, leveraging data analytics tools like Tableau and Smartsheets.	

Iowa State University*Graduate Research Assistant – Digital Ag***Ames, IA, USA***January 2019 - December 2019*

- Enhanced data accuracy and analytics capabilities in precision agriculture projects by engineering advanced vision systems using MATLAB and LabVIEW.
- Improved data logger functionality by 30% through Linux-based enhancements, pioneering the development of advanced machinery data loggers for object-sensing projects.
- Streamlined project management processes by utilizing Agile methodologies and tools such as Jira, Miro, and Smartsheets during the implementation of vision systems and mapping tools.
- Tailored solutions for complex environments by refining object sensing techniques across varied terrains and incorporating data lake concepts.
- Developed end-to-end solutions for precision agriculture by spearheading projects that aligned with user requirements, focusing on advanced machinery data logging.

GE Appliances*Fall 2018 AME Co-Op***Lafayette, GA, USA***August 2018 - December 2018*

- Enhanced inventory control efficiency by creating a robust embedded inventory control label, utilizing data analytics to streamline processes and ensure accuracy.
- Optimized quality assurance processes by fine-tuning test sequences, implementing Agile methodologies and using project management tools like Jira and Miro.
- Improved product build quality by ensuring quality in new product builds through meticulous testing and aligning with user requirements.
- Enhanced camera testing systems for critical quality control improvements by leveraging data analytics and Smartsheets for analysis and improvement.
- Supported end-to-end project management during Co-Op at GE Appliances by collaborating on the development of test systems and processes.

Heilbronn University*Senior Design Project Intern***Heilbronn, BW, Germany***February 2017 - March 2017*

- Enhanced project management efficiency by 30% for ISO15118 compliant display driver development for car charging stations by utilizing Agile methodologies and tools like Jira and Smartsheets to manage timelines and user requirements.
- Led a team to successfully develop backend drivers for a 4th Gen Car Charging Station project by employing end-to-end software development using Python, EBGuide, and C++.
- Facilitated cross-functional collaboration in a cultural and language exchange program across universities by conducting data analytics workshops using Tableau and Miro to enhance communication and collaboration.

SKILLS

Skills: MATLAB, Adobe After Effects, Java, Android Development, AutoCAD, SolidWorks, Linux/Unix, Microsoft Azure, HTML/CSS, Git, Altium, Tensorflow, Pytorch, python, Computer Vision, RedHat, Data Analysis, C/C++, C#, Qt, Blender, Tableau, Minitab, AWS, Excel/Numbers/Sheets, Natural Language Processing (NLP), Python

Languages: French, German, Hindi, Tamil, Malayalam