Ankit Shrikrishna Wani

Data Scientist, ADAS in IN-BI Intelligent Mobility & Software Group
FEV India Pvt. Ltd.
Advisors: Dr. Umesh Hivarkar & Dr. Christian Fuchs

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Webpage : www.dkdennis.xyz
Github : www.github.com/metastableB
8888597572

EDUCATION

C-DAC's ACTS *(Government of India)*   *India*
(Scientific Society of the Ministry of Communication and Information Technology)
PG Diploma, in Artificial Intelligence   *Sep '21 - April '22*
Percentage: 85.08% Grade: A+ All India Rank: 2

Siddhant College of Engineering Pune   *India*
Bachelor of Engineering, Electronics and Telecommunication Engineering   *Aug '11 - Jun '17*
Percentage: 78.93% Institution Rank: 1 (Final Year)

RESEARCH INTERESTS

Primary: Large-scale Machine Learning, Statistical learning Theory, Convex and non-convex optimization
Others: Sensor Fusion, Deep Learning on (Embedded Devices, IoT Devices, for Autonomous Vehicles), Path planning, Control, Decision making & Proving Safety Trajectories, Perception, Localisation

PUBLICATIONS

Ethics in the Driver's Seat: Unravelling the Ethical Dilemmas of AI in Autonomous Driving
Ankit Wani, Deepa Kumari, Jyotsana Singh, Avinash Ithape *FEV India Pvt. Ltd.*
In *AI and Machine Learning SAE International World Congress Experience (WCX), Detroit, USA 2024.* [Link]

FEV's "CogniSafe: Pioneering Autonomous Vehicles with Advanced AI Driver Monitoring System
Ankit Wani, Deepa Kumari, Govind Rapanwad, Jyotsana Singh, Avinash Ithape *FEV India Pvt. Ltd.*
In *AI and Machine Learning SAE International World Congress Experience (WCX), Detroit, USA 2024.* [Link]

A real-time autonomous system designed for in-cabin safety using camera
Ankit Wani, Deepa Kumari, Govind Rapanwad, Jyotsana Singh, Avinash Ithape *FEV India Pvt. Ltd.*
In submission at *AI and Machine Learning SAE International World Congress Experience (WCX), Detroit, USA 2024.* [Link]

Accelerating AI-based development of Animal Detection features for Indian Traffic scenarios with An Automated Annotation Approach
Ankit Wani, Deepa Kumari, Govind Rapanwad, Jyotsana Singh, Avinash Ithape *FEV India Pvt. Ltd.*
In submission at *AI and Machine Learning SAE International World Congress Experience (WCX), Detroit, USA 2024.* [Link]

Monocular vision-based distance estimation, safe distance monitoring and collision warning system
Ankit Wani, Deepa Kumari, Govind Rapanwad, Jyotsana Singh, Avinash Ithape *FEV India Pvt. Ltd.*
In *ADAS and Autonomous Vehicle Sytem: ADAS/AVS - Perception SAE International World Congress Experience (WCX), Detroit, USA 2024.* [Link]

Monocular vision-based distance estimation, safe distance monitoring and collision warning system
Ankit Wani, Deepa Kumari, Govind Rapanwad, Jyotsana Singh, Avinash Ithape *FEV India Pvt. Ltd.*
In submission at *ADAS and Autonomous Vehicle Sytem: ADAS/AVS - Perception SAE International World Congress Experience (WCX), Detroit, USA 2024.* [Link]

Performance Analysis of class EF2 Inverter and Rectifier for Wireles Power Transfer Systems
Akshay Gapchup, **Ankit Wani**, Ashish Wadghule, Akshay Thorat
In *International Journal of Innovative Research in Science Engineering and Technology (IJIRSET)*, 2017.
Microsoft's demonstration at NIPS '18. [Link]

The Phone Sat and Application
Akshay Gapchup, **Ankit Wani**, Ashish Wadghule, Akshay Thorat
In *International Journal of Electronics and Tele-communication Engineering and Technology (IJECET)*, 2017.
Microsoft's demonstration at NIPS '18. [Link]

Emerging trends of Green IOT for Smart World
Akshay Gapchup, **Ankit Wani**, Ashish Wadghule, Sashank Jadhav
In *International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)*, 2017.
[Link]

Health Care Systems using Internet of Things
Akshay Gapchup, **Ankit Wani**, Durvesh Gapchup, Sashank Jadhav
In *International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)*, 2017.
[Link]

A Survey on Millimeter-Wave A Permissive Technology for 5G Cellular Communication
Akshay Gapchup, **Ankit Wani**, Durvesh Gapchup, Sashank Jadhav
In *International Journal of Innovative Research in Science Engineering and Technology (IJIRCCE)*, 2017. [Link]

Flying Rubick's with self assembling using M-Blocks
Akshay Gapchup, **Ankit Wani**
In *International Conference on Inventive Systems and Control (IEEE)*, 2017.
Best Paper Runner-Up Award. [Link]

PATENTS

System and Method for Next-Gen ADAS Engineering Framework *(FEV Europe GmbH)*   *2017*
Akshay Gapchup, **Ankit Wani** ∘ *Application No - 201721001301 (Publication No - 03/2017)*

Mass estimation for superior range prediction *(FEV Europe GmbH)*   *2017*
Akshay Gapchup, **Ankit Wani** ∘ *Application No - 201721001301 (Publication No - 03/2017)*

Powertrain Control for Battery Electric Vehicle BEV's *(FEV Europe GmbH)*   *2017*
Akshay Gapchup, **Ankit Wani** ∘ *Application No - 201721001301 (Publication No - 03/2017)*

Advanced Border Securities *(Ministry of DRDO)*   *2017*
Akshay Gapchup, **Ankit Wani** ∘ *Application No - 201721001301 (Publication No - 03/2017)*

Mr. ARM   *2017*
Akshay Gapchup, **Ankit Wani** ∘ *Application No - 201721001301 (Publication No - 03/2017)*

Cognitive Biometrics using Mouse Perturbations   *2017*
Akshay Gapchup, **Ankit Wani** ∘ *Application No - 201721001301 (Publication No - 03/2017)*

WORKSHOP PRESENTATIONS

Image Processing: Basic and Advanced Training
Don Kurian Dennis, Harsha Simhadri, Prateek Jain
Workshop on Machine Learning on the Phone and other Consumer Devices (MLPCD 2), NIPS 2018.

Basic and Intermediate AI ML Training
Don Kurian Dennis, Harshit Singh, Karan Jakhar, Prashant Baghel
International Symposium on Embedded Computing and System Design (ISED), 2016.
Runner-up, *ISED Grand Challenge.*

Engineering analytics for solving unsolved problems
Don Kurian Dennis, Ayushi Priyam, Sukhpreet Virk, Sajal Agrawal, Tanuj, Arijit Mondal, Kailash Ray
International Symposium on Embedded Computing and System Design (ISED), 2017.
Engineering analytics for solving unsolved problems
Don Kurian Dennis, Ayushi Priyam, Sukhpreet Virk, Sajal Agrawal, Tanuj, Arijit Mondal, Kailash Ray

International Symposium on Embedded Computing and System Design (ISED), 2017.
Computer Vision and sensor fusion for Object detection
Don Kurian Dennis, Ayushi Priyam, Sukhpreet Virk, Sajal Agrawal, Tanuj, Arijit Mondal, Kailash Ray
International Symposium on Embedded Computing and System Design (ISED), 2017.

Work Experience

FEV India Pvt. Ltd.

Advisors: Dr. Umesh Hivarkar & Dr. Christian Fuchs   *Nov '17 - Sep '18,*

○ Developed and implemented state-of-the-art algorithms and models for Battery Digital Twin, AI Traffic Jam Pilot, Adaptive cruise control, Lane keep assist, centering and departure warnings, Blind spot detection across multiple facets of autonomous vehicle systems, including perception, localization, mapping, planning, control, and decision-making.

○ Spearheaded a 6-member data science team to develop 'ALIVA', and patented annotation framework for 2D and 3D point cloud data with advanced cognitive tracking algorithms. Produced 2TB+ annotated data for 50+ unique instances in European and Indian scenarios, enhancing autonomous driving algorithm training with a scalable solution.

○ Demonstrated a strong ability to collaborate effectively with cross-functional teams, ensuring seamless integration of cutting-edge research into the autonomous vehicle platform.Achieved practical applicability of research outcomes for enhanced platform performance.

○ Exemplified a proven ability in mentoring and guiding team members, junior researchers, interns, and undergrads fostering a collaborative and inclusive research environment that encourages professional growth and knowledge sharing.

Griffyn Robotech Pvt. Ltd.

Advisors: Dr. Deepak Anand   *Nov '17 - Sep '18,*

Developed and implemented AI-based evaluation and decision making modules for *DEEPSIGHT* & *Deepclean* a patented product in the reverse logistic chain of cell phones for Fortune 500 client using generative models and attention-based CNNs for semantic segmentation for cosmetic evaluation of products for optimization of resale value and objectiveness.

Vision guided cosmetic grading and functional testing robotic solution for cell phones using reinforcement learning based space-exploration, object detection, and real-world coordinate mapping.

Few-shot learning-based surface inspection and IIOT 4.0 products for automobile manufactures along with optimal vision system for defect capture by the selection of cameras and illumination strategy.

Protocontrol Instruments Pvt. Ltd.   [Preprint]

Advisors: Dr. Prateek Jain & Dr. Harsha Simhadri   *Jan - May '18,*

Conducted coding in C and C+ for manufacturing assemblies, performed troubleshooting and debugging activities, and documented bug fixes in the knowledge base.

Supported the engineering team in defining software requirements and documentation for new product development of embedded systems. **(Accepted at NIPS '18)**

BSNL - A Government of India Enterprises   [Preprint]

Advisors: Dr. Prateek Jain, Dr. Harsha Simhadri & Dr. Manik Varma   *July - Dec, '17,*

Diagnosed and resolved complex integrated customer issues for voice, data, VoIP, and CTI application implementation, add-on, maintenance, and support.

Trained on an overview of Signalling Concepts, Digital Transmission Systems, and Mobile Technologies, along with detailed study of Broadband technologies and 5G latest trends.

(In submission, CHI '19 & Microsoft's demonstration at NIPS '18).

Open Source Contributions

AI Agents within UNITYML   [GitHub]

Advisors: Dr. Maheshwari Biradar Open Source   ***Microsoft Research***

Core developer of EdgeML, Microsoft Research India's machine learning library for edge and end-point devices. Developed ProtoNN and EMI-RNN for EdgeML's Tensorflow submodule. Maintainer of the python codebase.

Automated 3-DOF Robotic Arm   [GitHub]

Advisors: Dr. Maheshwari Biradar Open Source   ***Microsoft Research***

Core developer of Robotic arm Implemented and integrated Image processing and Speech to text (STT) complex algorithmns and improved accuracy of the noise factor and overlapping speeches by 30% and drawing accuracy by 11_mm.

Encrypt and Decrypt text message using AES Encryption Algorithmn   [GitHub]

Open Source

Integrated and implemented AES algorithmn deployed on embeded processor, smallest to fastest technique with state-of-the-art results to provide security from abnormality, intrusion frauds thus providing security in storage and transmission.

Lunar Lander using OpenAI v2 - Discrete Action Space   [GitHub]

Open Source

Integrated and implemented AES algorithmn deployed on embeded processor, smallest to fastest technique with state-of-the-art results to provide security from abnormality, intrusion frauds thus providing security in storage and transmission.

Awards & Achievements

2016	Graduated, at the **Top** of my institution with **78.93%**
2021	All-India-Rank 1 in **C-CAT** Centre for Development of Advanced Computing entrance exam amongst 90,000 candidates
2015	1st , **CodeStorm** - Competitive Programming
2021	1st prize in **Paper Presentation** - Flying Rubick's with self-assembly with M - Blocks
2021	1st prize in **Paper Presentation** - Flying Rubick's with self-assembly with M - Blocks
2015	1st prize in **Google Challenge** completed all challenging tasks fastest with the best score
2016	1st prize in **Google Junk** completed all challenging tasks fastest with the best score
2016	2nd prize in **Boc Cricket**- Captained team of 6 and competed against 30 teams to won second prize
2016	2nd prize in **Boc Cricket**- Captained team of 6 and competed against 30 teams to won second prize
2016	Finalist in **Aptitude Cracker**
2016	Finalist in **Poster Presentation** - "Women Empowerment"

Skills Summary

Languages:	Python, Jva, C++, JavaScript, SQL, Bash, JAVA
Frameworks:	Scikit, NLTK, SpaCy, TensorFlow, Keras, Django, Flask, NodeJS, LAMP
Tools:	Kubernetes, Docker, GIT, PostgreSQL, MySQL, SQLite
Platforms:	Linux, Web, Windows, Arduino, Raspberry, AWS, GCP, Alibaba Cloud, IBM Cloud
Soft Skills:	Leadership, Event Management, Writing, Public Speaking, Time Management