Aayush Sharma

Driven by Curiosity, Empowered by Knowledge

A continual learner with a passion for exploring new domains. Specialized in Artificial Intelligence and Machine Learning, complemented by foundational knowledge in Cyber Security, Game Development, and Arduino Programming.

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EDUCATION

M. Tech (Machine Learning and Artificial intelligence)
Lovely Professional University, Phagwara

10/2021 - 05/2023 CGPA - 8.17

Notable Publications
- Patent Titled " A System and Method for Detecting Plant Diseases using a Secure Federated Blockchain with User-Customizable Use Cases.".

B. Tech (Computer Science and Engineering)
Dr. A.P.J. Abdul Kalam Technical University

03/2017 - 06/2021 CGPA - 6.77

Notable Projects
- Arduino Firefighter Drone

PUBLICATIONS

Authored a patent titled " A System and Method for Detecting Plant Diseases using a Secure Federated Blockchain with User-Customizable Use Cases. "
- Integrated Federated Learning with Blockchain Technology, securing an approved patent. Developed a user-centric approach enabling individuals to create AI classification models without compromising data privacy or third-party interference. Implemented a unique blockchain system where each new model contributes a block, empowering users to run AI systems on their hardware.

Authored a Paper Titled "Maze Solver: A Federated Reinforcement Learning Approach".
- Authored three papers on Federated Learning for my dissertation. Developed Federated Q Learning, a novel algorithm merging Q learning and Federated Learning architectures. Successfully applied this technique to solve mazes, publishing the results and conclusions. Introduced the first-ever implementation of this approach.

Paper Titled "Generative Adversarial Networks Based Approach for Data Augmentation in Mango Leaf Disease Detection System".
- Developed a novel data augmentation approach using GANs and Reinforcement Learning to solve the small Dataset challenge in Mango leaf image classification. Published at the 12th IEEE International Conference on Communication Systems and Network Technologies (Government Funded).

Review Paper Authored Titled "Current Trends In Federated Learning A Review".
- Conducted a thorough review on the domain of Federated Learning. The review conducted in a systematic way while statistics of the domain is also analyzed.

SKILLS

Python   C Programming   C++ Programming   Machine Learning   Deep Learning   Federated Learning   Reinforcement Learning   Image Processing   Unity 3D   Unreal Engine 4   Linux   Arduino   Microsoft Office   Google Suite   Leadership   Active Listening   Effective Communication   Conflict Resolution   Creativity   Problem-solving   Critical Thinking

ACHIEVEMENTS

1st Rank in Cyber Attacks and Prevention Workshop
A state level competition with various other colleges and teams were participating in over 200 teams this team was ranked 1st in this event.

Safe Driving System
Developed an AI system consisting of three modules: Focus Detection, Object Detection, and Drowsiness Detection. Under 12 hours. Created for the MICROSOFT Hackathon at Lovely Professional University. Achieved 4th place in the competition.

Arduino Firefighter Drone
Developed an Arduino drone with gas and fire detection, 3-liter water tank, and pump for immediate extinguishing. Integrated camera, remote control, and alarm system. Completed within 6 months. Versatile for all terrains.

CERTIFICATES

Hacking in Practice: Intensive Ethical Hacking MEGA Course
Practical Ethical Hacking Techniques mega course with updated techniques. After completion an opportunity to participate in ISA CISS examination.

CS201: Elementary Data Structures
Successfully completed the Data Structures certificate, demonstrating a proficient understanding of data structures.

INTERESTS

Artificial intelligence   Research   Game Development   Ethical hacking   WebNovel Reading