Ayush Agarwal

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Summary!

Multidisciplinary Data Scientist and Software Engineer with a strong foundation in AI/ML, deep learning, web development, and scalable system design. Proficient in Python, Java, and React, with hands-on experience across end-to-end machine learning pipelines, cloud deployment (AWS), and agile software development. Adept at translating business problems into data-driven solutions and production-ready code.

Education

Vellore Institute of Technology(Chennai Campus), B.Tech in Computer Science and Engineering with specialization in AI & ML — Chennai, India — Sept 2022 – Present

- CGPA: 8.72

Narayana E-Techno School,12th — Mumbai, India — May 2020 – May 2022

- Grade: 88%

RBK School, 10th — Mumbai, India — Sept 2022 – Present

- Grade: 94%

Certifications

Artificial Intelligence using TensorFlow, SmartInternz / Google — Jun 2024 – Jul 2024

Skills & Interests

Programming Languages: Python, Java, JavaScript, HTML/CSS, PostgreSQL

Frameworks: pandas, numpy, scikit-learn, matplotlib, seaborn, YOLOv8, React

Tools & Platforms: AWS, Jupyter, Google Colab, Git, VS Code

Computer Science Fundamentals: Data Structures & Algorithms (Trees, Graphs), REST APIs, SDLC, Agile

Soft Skills: Problem Solving, Team Collaboration, Quick Learning, Communication

Interests: Table Tennis, Creative Writing, Reading psychology

Projects

VisuAnalytica (Ongoing)

- A no-code data analysis and ML training web tool enabling users to explore datasets, visualize insights, and build predictive models without programming.
- Tools Used: React, Python, REST APIs

VCheck: Uniform Compliance System

- Engineered an AI model using YOLOv8 to detect uniform compliance from images with 98% accuracy. Trained on custom dataset to automate visual inspection.

PhytoFinder

- Built a CNN-based plant classification system achieving 97% accuracy. Led model training and UI integration in an agile team of 5.

Digital Farming (IoT)

- Designed a hydroponics-based farming system with IoT sensors for real-time soil moisture and crop health tracking. Integrated alert systems and dashboard.

Code Reviewer Bot

- Developed an automated code quality checker using AWS Lex and Polly, providing NLP-based reviews and improvement suggestions. Reduced review time by 30%.

Experience

Web Developer Intern, Afame Technologies — Remote Apr 2024 – May 2024

- Developed and optimized dynamic, responsive web pages using HTML, CSS, and JavaScript.
- Improved load times and UX for client websites.

Publications

Predictive Modelling of Physicochemical Properties of Cissus Quadrangularis Compounds (Accepted)

Journal: Letters in Applied NanoBioScience
Built regression models (Random Forest, AdaBoost, Linear) to model compound behaviors.

Looking-Glass Upon the Wall... Body Image and Social Media's Impact on Indian Youth (Under Review)

Journal: Indian Journal of Social Psychiatry
Led data visualization and statistical analysis for study involving 143 students; explored body image and self-esteem through ML-backed insights.

Quantitative Structure-Property Relationship (QSPR) Analysis of Cissus Quadrangularis Compounds Using Topological Indices and Machine Learning Models (Under Review)

Journal: Journal of Healthcare Informatics Research
Applied ML algorithms to predict compound properties using topological descriptors.

Modelling of Physicochemical Properties of Papaya Leaf Compounds Using Topological Indices and Random Forest Regression (Submitted)

Journal: Journal of Applied Statistics
Developed predictive models using topological indices to estimate compound properties via Random Forest regression.

Predictive QSAR Modelling of Bioactivity for Phytochemicals from Carica papaya: A Comparative Analysis of Machine Learning Regression Algorithms on a Pilot Dataset(Submitted)

Journal: Polycyclic Aromatic Compounds
Trained and compared multiple Regression models for predicting the bioactivity for Phytochemicals extracted from Papaya.