Pratham Shrivastava

Werkstudent - Software Developer | MSc. In Applied CS

Pratham Shrivastava
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Profile

AI/ML practitioner with strong academic grounding and hands-on experience developing deep learning and computer vision systems across healthcare, fintech, and environmental domains. Skilled in designing and deploying end-to-end ML pipelines, achieving 95%+ accuracy in real-world projects. Specialized in neural networks, image processing, and cloud-based deployment, with a focus on translating research into scalable, applied solutions.

Experience

Faculty of Business and Economics *Aug 2024 – Present*
Student Research Assistant (Werkstudent) – Georg-August-Universität Göttingen
web: prathamshrivastava

- Reengineered 15+ behavioral economics experiments using oTree (Python), migrating from legacy zTree systems and improving scalability by 300% for concurrent user sessions.
- Developed real-time multiplayer experimental frameworks supporting 200+ concurrent participants, implementing advanced randomization algorithms and live data synchronization.
- Deployed large-scale experiments on Heroku (500+ participants in Thailand) and conducted lab studies in Göttingen, ensuring reproducibility, accuracy, and seamless participant interaction.

Faculty of Mathematics and Computer Science *Sep 2024 – Present*
Student Assistant (Werkstudent) – Georg-August-Universität Göttingen

- Designed digital support resources and coordinated data-driven engagement events for international students, ensuring seamless integration within a multilingual environment.

Team Policumbent, Italy *Oct 2021 – Jul 2023*
Data Analyst – Politecnico di Torino

- Performed quantitative analysis of vehicle dynamics and performance metrics leveraging MATLAB and Python (NumPy, SciPy) for data processing and statistical modeling, improving vehicle efficiency by 15%.
- Created data visualizations and dashboards using Matplotlib and Seaborn to support evidence-based design decisions across the team.

Education

MSc in Applied Computer Science *Sep 2023 – Present*
Georg-August-Universität Göttingen, Germany
Specialization: Data Science
Thesis: Neuromorphic Computing Research – Investigating SpiNNaker2 chip performance using advanced Spiking Neural Networks, improving synaptic plasticity modeling via calcium-based dynamics simulation, and evaluated its efficiency for deep learning tasks (computer vision) in comparison with Intel Loihi.

BSc in Computer Engineering *Oct 2019 – Jul 2023*
Politecnico di Torino, Italy

Diploma in Computer Science *Oct 2018 – Jul 2019*
University of Pisa, Italy

Languages

English (C2) | German (B1) | Italian (B2) | Hindi (C2)

Technical Skills

Programming: Python, C, R, Matlab
ML/DL: TensorFlow, Scikit-learn, PyTorch, Keras
AI/Generative AI: LangChain, OpenAI API
Image Processing: OpenCV, Pillow
Frameworks: Django, Flask
Data Analysis: NumPy, Pandas
Visualization: Matplotlib, Seaborn
Databases: MySQL, MongoDB
Deployment: Git, GitHub, Docker, CI/CD, AWS, Azure
Tools: Anaconda, Jupyter, VS Code
Office: Word, Excel, PowerPoint, Outlook

Projects

- **Brain Tumor Detection:** Developed CNN-based brain tumor classification system using TensorFlow and scikit-learn achieving 94% accuracy on 1,200+ medical images; deployed using Flask.
- **Coffee Level Detection Using Thermal Sensor Camera:** Built thermal image classification system using custom CNN architecture (TensorFlow) achieving 94% accuracy across 5 coffee level categories.
- **Meeting Summarization Using NLP:** Implemented BERT-based meeting summarization pipeline using Hugging Face Transformers, reducing 60-minute meeting transcripts to 2-minute summaries with 92% key point retention rate. Fine-tuned on 500+ corporate meeting datasets.
- **Forest Biomass Estimation:** Developed satellite image analysis pipeline using scikit-image and OpenCV to estimate forest biomass with 87% accuracy across 1,000+ hectares. Created automated feature extraction reducing manual analysis time by 80%.
- **Byzantine Manuscripts Analysis:** Image analysis for historical insights using *Pillow* and *NumPy*.
- **Media Reception and Binge-Watching:** Psychological study on digital media habits using *Pandas* and *Seaborn*.

Volunteer and Leadership

Selection Committee Member – MSc Program *Feb 2024 – Present*
Interviewed candidates and reviewed academic and research profiles for program suitability.

Nirmiti – Indian Fraternity in Göttingen *Jul 2023 – Present*
President

- Managing a community of 500+ Indians, facilitating cultural and academic integration and acting as liaison with the university and Embassy of India.

Politecnico di Torino Indian Student Association (PISA)
Vice President *Mar 2022 – Jul 2023*

Achievements

EDISU Scholarship (Italy)
Received for the full duration of BSc studies in recognition of sustained academic excellence and financial eligibility.