Recommendation Letter

Mr. Raj Anilbhai Pawar was employed by PartikelART Solution GmbH as a working student in Software Development from 1 October 2024 to 15 November 2026, with regular working hours of up to 20 hours per week.

PartikelART digitalizes technical cleanliness in industrial manufacturing, making particulate contamination measurable quickly, easily and directly within production processes. Through innovative monitoring solutions and a centralized data platform, we connect cleanliness data from laboratories, production and supply chains, providing transparency across processes, sites and suppliers. This enables continuous, data-driven quality assurance, faster root-cause analysis and more efficient processes with the appropriate level of cleanliness.

Even before joining our company, Mr. Pawar impressed us with his outstanding contribution to a deep-learning proof of concept during an industrial project at TU Dortmund University. At PartikelART, he subsequently assumed tasks for developing and optimizing our computer vision and machine learning solutions.

His key responsibilities and achievements included:

- Developing, training and optimizing computer vision and machine learning models using Python, PyTorch and OpenCV
- Adapting and implementing U²-Net architectures for production-oriented segmentation, detection and measurement of metallic, non-metallic particles and fibers
- Optimizing model performance and image-analysis pipelines for fast, automated on-site particle analysis
- Independently designing and implementing an active-learning backend in Label Studio, integrating the Segment Anything Model (SAM 2.1)
- Automating mask generation and data annotation, considerably accelerating the creation of training datasets and improving their quality
- Systematically evaluating, quality-assuring and documenting AI models and development processes
- Communicating technical methods and findings, including co-delivering a guest lecture in the master's course "Industrial Data Science 1" at TU Dortmund University

Through his outstanding technical contributions, Mr. Pawar played a key role in advancing our core AI technology. His model optimizations were instrumental in supporting our goal of automated on-site particle analysis in under 60 seconds. His work on active learning and automated annotation accelerated the generation of training data by approximately a factor of ten.

Mr. Pawar demonstrated exceptionally strong and consistently applicable expertise in artificial intelligence, computer vision and software engineering. He grasped even highly complex technical challenges remarkably quickly and developed innovative, practical and reliable solutions. His work was always characterized by exceptional initiative, independence, analytical precision and a very high standard of quality.

Even with considerable workloads and tight deadlines, Mr. Pawar consistently delivered excellent results. He always performed all duties to our fullest satisfaction, and his overall performance was outstanding in every aspect.

His conduct towards management, colleagues and customers was always exemplary. Thanks to his collaborative, professional and supportive manner, he was a highly valued member of our team, both professionally and personally.

Mr. Pawar's employment ends on 15 November 2026. We deeply regret his departure, as we are losing an exceptionally capable, highly committed and much-appreciated colleague. We sincerely thank him for his excellent performance and the trustful cooperation. We recommend him without reservation for further roles in artificial intelligence, computer vision, machine learning and software engineering, and wish him continued professional success and all the best for his future.

Dortmund, November 2026



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