



Student name: **Zeerak Khan**

Placement at: **Cranfield University**

Project summary: **Automatic state classification of construction vehicles using machine learning**

I applied for a placement because I wanted to experience what real research is like and to challenge myself with a project outside the school curriculum. I was excited by the idea of being matched to a project in a STEM field, as it gave me the chance to explore new areas while building problem-solving and research skills.

“

My project was challenging and required problem-solving, but it also gave me a chance to explore a novel application of AI in construction and learn about practical research methods.

How it benefited me:

I developed scientific and technical skills, such as feature engineering for sequential data, training and evaluating machine learning models, handling noisy datasets, and data visualisation. I also improved others skills like problem-solving, time management, project documentation, and presenting technical results in a clear and concise way.

My supervisor supported me both academically and personally throughout the project. He guided me through the technical aspects of using AI models and gave feedback on my results, but he also made adjustments to account for my visual impairment. This included helping me find accessible ways of working with data and ensuring I could fully engage with the project. This support made a big difference in helping me succeed.

”

My next steps:

I plan to study mathematics at university, then continue to a PhD and eventually a career in research. My goal is to contribute new knowledge to mathematics and to pursue academic or research opportunities in the future.

Advice for future students:

Be open-minded about what project you might get. Even if it's not directly related to your future plans, you'll gain valuable skills and experience. Don't be afraid to ask questions and make the most of the opportunity to learn from researchers.

Thank you for this invaluable experience!