



2027 Summer Research Project: Jason Tangen, School of Psychology

Positions requested: 2 (the project is designed for two scholars working together). Supervisor:
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Section	Description
Project title	Can an AI tell good thinking from good writing? Building the dataset to find out
Hours & delivery	25 hours a week for six weeks (11 January to 19 February 2027). This is a hybrid project. Data collection will happen in person at St Lucia in the School of Psychology. Transcription, checking and analysis can be done remotely. You can expect to be on campus 2 or 3 days a week, with participant sessions grouped into blocks and the rest of your hours fairly flexible.
About the project (150–250 words)	Universities are starting to use AI to mark student work, but we still don't know very well what those marks are actually measuring. AI can look quite good on tasks such as maths, where there is often a clear right or wrong answer. It's much harder to judge work that depends on reasoning, interpretation or explanation. One concern is that an AI marker may reward long, fluent, confident writing even when the thinking underneath it is weak. We also know very little about how well these systems handle handwritten work. In 2027, four Honours students in the lab will study different parts of this problem: whether AI is judging reasoning or surface polish, whether human moderators catch its mistakes, whether students can game it, and how students feel about being marked by AI. Before any of those studies can happen, we need a good set of real handwritten responses. Your job will be to build it. You will help design the tasks, run the sessions, collect the responses and improve the materials as you go. We will put early batches through our grading system, see whether the tasks are producing a useful spread of answers, and adjust them before the Honours projects begin.
What you'll do (100–150 words)	You will help create the examples and comparison pairs that participants will judge, then pilot the study materials and make sure the sessions work smoothly. Once the procedure is settled, you will run in-person sessions with students from the summer subject pool and collect timed handwritten responses. After each session, you will scan the scripts and check AI-generated transcripts against the original handwriting, recording every correction. That gives us both a clean transcript and a direct test of how accurately the system reads difficult handwriting. You'll organise everything into a documented dataset with a codebook, run batches through our grading pipeline, and help decide what needs to change before the next round. You will also recruit tutors and postgraduate students to write some high-quality responses and help collect blinded expert ratings.
What you'll learn (100–150 words)	You will get a practical introduction to how a research question becomes a study that can actually answer it. That includes designing tasks that measure the thing you care about, running participant sessions consistently, and organising data so that another researcher can understand and use it without having to ask what everything means. You'll also work with a cloud AI system rather than an ordinary consumer chatbot, so you will see how AI is evaluated in a real research setting. Just as importantly, you will see what happens when the first version of a task doesn't work quite as planned: how to spot the problem, work out why it happened, and improve the design before collecting the main data.
Project outcomes (75–125 words)	By 19 February, you'll have helped produce a documented dataset of roughly 700 handwritten answers from about 100 participants across four types of task. It will include the original scans, human-checked transcripts, a codebook and a collection procedure that another researcher could run again.



	You'll also help measure how accurately the AI transcription system reads handwriting, including whether accuracy drops on harder-to-read scripts, and keep short notes on what worked well and what should be changed. The dataset will be used in four Honours theses in 2027 and in a UQ validation study for a new first-year course. Students who make a substantial contribution will be offered authorship on the resulting corpus and methods paper.
Who should apply? (75–125 words)	This project would suit a second- or third-year student in psychology or a related field who is interested in human judgement, measurement or the use of AI in education. You don't need to be a programmer. Some experience with would be helpful, but the main things we are looking for are care, reliability and good organisation. You'll be working with participant data and building a dataset that several other researchers will rely on, so accurate record-keeping matters. You should also be comfortable talking to participants and running a session from a standard script. If you tend to notice when something sounds impressive but does not actually make sense, you will probably enjoy the questions behind this project.
Team & supervision (75–125 words)	Supervisor: Professor Jason Tangen, School of Psychology. The Tangen Lab studies human judgement and expertise: how people make difficult decisions, how experts develop their skills, and when advice should be trusted or questioned. You'll work directly with Jason and meet each week. In week one, you'll set up the workflow together; after that, you should be able to run the parts yourselves. The project is designed for two summer scholars working as a pair. You can divide the work between running sessions and processing data, and swap roles as needed. Much of the day-to-day work will be yours to organise, but it sits within a larger research program. You'll meet the four Honours students who will use the dataset at the handover in late February.
Additional opportunities (optional)	Students who make a substantial contribution will be offered authorship on the resulting corpus and methods paper. The dataset will also feed into a UQ study on AI marking and the design of a new first-year course on critical AI literacy. As a smaller side project, you can test yourself against the AI transcription system on some of the hardest handwriting and see where each of you gets it right or wrong. There's also a natural pathway into an Honours project in the lab for students who want to continue with this work. You'll have the chance to present the project at the Summer Research Showcase.
Additional requirements (if applicable)	Human research ethics approval will be in place before the program starts. You will be added to the approval and will need to complete UQ's human research ethics training before you run any participant sessions. You'll need to be on campus for data collection. No other checks, licences or safety training are required.
Contact	Yes. Students are very welcome to contact the supervisor before applying. Questions can be sent to Professor Jason Tangen at j.tangen@uq.edu.au.