**APPENDIX**

**Research Proposal  
  
Can Artificial Intelligence algorithms be used to enhance Graphic Design ideation processes?**

**Nural Choudhury**

**nc256086@falmouth.ac.uk**

Liz Coultersmith and Laura-Jayne Hazzard

MA Experience Design, Module UXD740

Games Academy

Falmouth University, Cornwall, United Kingdom

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# **INTRODUCTION**

### Background and Context

Artificial intelligence (AI) could be one of the most transformative technologies in human history. It is a technology that has seen use in Healthcare [(Amazon Web Services 2020)](https://paperpile.com/c/Vy7cMy/1F8zR), Manufacturing [(Caulfield 2021)](https://paperpile.com/c/Vy7cMy/AyEvd), and Education [(Carnegie Learning 2020)](https://paperpile.com/c/Vy7cMy/1rmQB). With PricewaterhouseCoopers predicting a $15.7 trillion investment in AI by 2030 [(PricewaterhouseCoopers 2016)](https://paperpile.com/c/Vy7cMy/jEzUg).

### Relevance and Importance of the Research

Contributions presented at the International Conference on Human Interaction and Emerging Technologies: Future Applications [(Ahram et al. 2020)](https://paperpile.com/c/Vy7cMy/t2Vhi) have demonstrated how AI undoubtedly would take over routine tasks and liberate us to do more stimulating work. However, there is little research on whether AI can become intelligent enough to contribute to creativity, critical thinking, and original thought.

### Problem Statement

In this study, I will look at how humans use technology to enhance tasks in Design and whether Design inevitably can be automated.

### Research Questions

My central proposition is that if Design is a field of study where 'Good' Design is taught, why can't a machine fully perform these practices?

# **RESEARCH DESIGN AND METHODS**

## **Research design**

I will explore AI, ML and DL methods to gain insights into which methods can potentially be trained in the Graphic Design ideation process. I will then explore design pedagogy to identify the most efficient, repeatable, scalable and consistent processes that an AI could be trained in. To validate the secondary research, I will invite a sample size of 15-20 graphic design professionals to participate in a survey.

## **Methods and Sources**

Digital graphic designers will be invited to participate in a study via personal invites on Linkedin to complete over five days. The survey will be designed to question participants aged between 18-54+ and will not discriminate against individuals with non-formal education training.

## **Practical Considerations**

The study will not create a working AI but suggest how an AI could potentially be built if technological resources were available.

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**Survey Results**

<https://docs.google.com/spreadsheets/d/168JXS5DJG5aYTKeZ4hvk5Tnx4JOk23yKONlaveX2ZpI/edit?usp=sharing>