



University of Sussex

## Information Sheet

### Modelling Visual Hallucinations using Deep Neural Networks

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#### Introduction

I would like to take this opportunity to thank you for your interest in taking part in our study. Before you decide whether you would like to participate, you need to understand why the research is being done and what it would involve. Please take time to read the following information carefully and do not hesitate to ask if there is anything that is not clear or if you would like more information.

#### What is the purpose of the study?

In this study you will be asked as a patient with VHS due to either Parkinson's Disease or Lewy Body Dementia to perform a phenomenological interview via phone or video call, in which we will ask you to describe the nature of your VHS, in terms of their content, visual features and similarity to veridical perception, this conversation will be recorded so we can analyse your responses at a later time.

Previously we have simulated using computer models visualisations of the visual hallucinations (VHS) associated with the psychedelic state. Due to the specific architecture of the model, it was not possible to simulate the phenomenology associated with other types of VHS, such as the result of neurologic conditions, such as Parkinson's disease or Lewy Body dementia or Charles Bonnet Syndrome. In order to successfully simulate VHS in these conditions, the model must be able to produce outputs that accurately simulate the content of normal visual perception.

To simulate how alterations in the functioning of a computer model can reproduce the phenomenology associated with normal perception, psychedelic and pathological VHS, we are using a state of the art computer model to create representative visualisations of these VHS.

In order to validate the success of our visualisations in capturing representative features of the VHS experienced in these conditions, we want to directly compare the outputs of our model to subjective descriptions of these hallucinations. In this way we can assess how closely the network characterises the phenomenology associated with each type of experience.

#### Do I have to take part?

No, participation is entirely voluntary. After you have read this information sheet and before participating you will be asked to sign a consent form to show you agree to take part. Should you

agree to participate you will nonetheless be free to withdraw at any time, without giving a reason, and will still be paid for your time.

### **What will happen to me if I take part?**

We will arrange a time convenient to you to conduct a brief semi-structured interview via phone or Skype, which should take no longer than 45 minutes. The interview will ask you details about your specific experiences of visual hallucinations, for example, how long you have had them, their content and ask you to describe them in as much detail as possible. Some of the questions will be left open ended to allow you to provide greater detail. Finally, we will ask you to rate the visual qualities of your visual hallucination to normal visual experiences.

### **Are there any risks involved in taking part?**

There are no associated risks in taking part in this experiment. This study has been approved by the Sciences and Technology Cross-Schools Research Ethics Committee. If you have any ethical concerns, please contact the ethics chair ([crecscitec@sussex.ac.uk](mailto:crecscitec@sussex.ac.uk)). The project reference number is ER/DS335/39. University of Sussex has insurance in place to cover its legal liabilities in respect of this study.

### **What are the possible benefits of taking part?**

The knowledge gained from this study will be of general theoretical interest. Although there is no direct benefit for you, in participating in the study you will know that you have made a valuable contribution to that objective.

### **What if I later have a concern about the study?**

If you have any questions or concerns about the study you may contact the principle investigator or collaborators to discuss your concerns or obtain further information.

### **Will my taking part in this study be kept confidential?**

All information collected about you during the course of the research will be kept strictly confidential, your data will be linked to your name until 2 weeks after the experiment is completed allowing you to withdraw your data during this period if you wish (01/10/2021). After this time your data will be anonymised meaning that your details cannot be matched back to you. In addition, the recording of your interview will be transcribed for further analysis, once this has been done the original recording will be destroyed.

### **What will happen to the results of the research study?**

The results from studies such as this are normally presented internally and may be submitted for publication in a scientific journal. Any of your data from this study that is presented in any form will be totally anonymous.

Thank you for your interest in this study

**Dr. David Schwartzman**

Postdoctoral Research Fellow. The Sussex Centre for Consciousness Science