# CITS3001 Report: Resistance Agent

## Introduction

The purpose of this project is to use Bayesian Opponent Modelling to create resistance agents that can improve on a baseline agent performance.

The baseline agent was put together using lessons learned from playing the game as well as various tactics and rules found while undertaking the literature review. Specifically it developed on the basis of absolute assumptions about events in the game. For example confirming spy status when number of betrayals is equal to the number of agents on a mission.

## Literature Review

## Design Description

“AGENT\_NAME” uses Bayesian Opponent Modelling to extend the Baseline Agent’s understanding of the world in order to create a more successful player. The focus of “AGENT\_NAME” is on playing a better reistance character rather than creating a superior spy. That said, understanding how suspect a player, whether spy or resistance, appears to resistance players can help a spy make better choices about how they should act.

### Baseline Agent Design

During design of the the model agent the baseline agent was continuously reviewed for improvements that could be made based on certainty rather than inference so is somewhat more sophisticated than the initial baseline agent.

## Validation of Agent Performance