# WEEKLY RESEARCH PROGRESS REPORT: 39

**Shangshang Wang**
School of Information Science and Technology
ShanghaiTech University
wangshsh2@shanghaitech.edu.cn

## 1 QUOTE OF LAST WEEK'S PLAN

- Book "Monte Carlo Statistical Methods": Chapter 1, 3 and 5.
- Book "Markov Decision Processes: Discrete Stochastic Dynammic Programming": Chapter 1, section 2.1 and 2.2 and Chapter 3. Basically the most fundamental parts and essential parts of the above two textbooks.

## 2 PLANNED ACCOMPLISHMENTS

- Book "Monte Carlo Statistical Methods": Chapter 1. (This book is relatively hard and full of theory which is kind of redundance for current learning.)
- Book "Markov Decision Processes: Discrete Stochastic Dynammic Programming": Chapter 1, section 2.1 and 2.2 and Chapter 3.

## 3 OTHER ACCOMPLISHMENTS

- Summarize research ideas.
  1). Self-supervised learning + generative model + reward engineering = better learning.
  2). The env as an adverserial RL agent.
  3). Model-free until you get to ask the model, then you do model-based.
  4). replace replaybuffer with attention technique.

## 4 ISSUES AND PROBLEM TO SOLVE

- Geting ready for the undergraduate research project

## 5 NEXT WEEK'S PLAN

- The next week plan is not a fixed deal for now. Since I have decided to sign up for the undergraduate research project, I can only make plan based on the professor's idea and suggestion on the topic.

## REFERENCES