Pairs Trading Using Reinforcement Learning

Unit: CITS4404 Artificial Intelligence

Unit coordinator: Yuliya Karpievitch

Members:

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Robin Markwitz   21968594

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Team Assessment

Team Member	Student Number	Mark
Madeleine Lim	21708238	A
Robin Markwitz	21968594	A
Ruan Scheepers	21980258	A
Asaf Silman	21985278	A

Tasks Description

Task	Description	Member(s)
Model	*Plan and design project direction*	Team
	Create actor-critic model	Robin, Ruan
	Train model	Ruan
Environment	*Create environment with gym* Set up project directory structure according to gym.	Asaf
	Create trading sim	Asaf, Madeleine

	Responsible for - Accounting stock balances - Accounting cash balances - Executing trades and rules - Calculating NAV (new asset value) - Initialise starting balance	
	Create display - Human mode: plot portfolio value and plot spread over time - Console mode: print updating portfolio values, stock prices	Asaf, Madeleine
Data	*Acquire stock data*	Robin
	Define data processing functions - Read in data from two stocks and strip from earliest matching starting date. - Calculate percentage change based on close price.	Asaf, Madeleine
	Split training and testing data	Asaf
Documents	*Slides*	Team
	Team assessment	Team
	Task description	Team
	Notebook report	
	- Introduction, Data, Random Strategy, Environment	Madeleine, Asaf
	- Model Setup and Results	Ruan, Robin