

Reinforcement Learning & Robotics Foundations

Q-learning, policy gradients, multi-agent RL, simulation environments. From theory to robot control.

blootou.com | sales@blootou.com

Program Overview

PRICE

\$8,000

DURATION

12 weeks

FORMAT

Live

LEVEL

Advanced

Q-learning, policy gradients, multi-agent RL, simulation environments. From theory to robot control. This architect track is structured for adult learners who need practical, career-relevant depth without academic abstraction. Delivered as a live experience, the course combines guided milestones, implementation reviews, and applied exercises aligned with modern AI, engineering, and technical leadership work.

Outcomes

- Understand core reinforcement learning algorithms and control concepts.
- Train agents in simulation environments with meaningful reward design.
- Evaluate exploration, convergence, and policy performance rigorously.
- Connect RL principles to robotics and real-world control systems.

Includes

- 12 live weeks with RL experiments and simulation labs.
- Environment design and reward shaping worksheets.
- Policy optimization walkthroughs and debugging sessions.

- Robotics translation notes from simulation to physical systems.

Syllabus

WEEK 1

RL Foundations and Control Framing

Establish the mathematical and practical foundations of sequential decision making.

Topics: Agents and environments, Rewards, Markov decision processes

WEEK 4

Value-Based Methods

Train agents with Q-learning approaches and understand stability challenges.

Topics: Q-learning, Exploration strategies, Function approximation

WEEK 8

Policy Optimization

Move into policy gradients and actor-critic methods for more complex control tasks.

Topics: Policy gradients, Actor-critic, Optimization dynamics

WEEK 12

Simulation to Robotics

Apply RL concepts to robotic control and discuss real-world deployment constraints.

Topics: Simulation environments, Robot control, Safety considerations

Instructor

Leo Schneider

Leo works across control systems and machine learning, helping engineers connect reinforcement learning theory to embodied systems.

This Blootou Intelligence syllabus is an admissions overview for planning and evaluation. Final cohort dates, live session timing, assessments, and platform access details are shared in the welcome packet after enrollment.

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