Overview of Dec-POMDP notation used

A_i	Set of actions for agent i
a_i	Local action for agent i
$\vec{A}$	Set of joint actions, $\vec{A} = \otimes_{i \in I} A_i$
$\vec{a}$	Joint action, $\vec{a} = \langle A_1, \ldots, A_n \rangle$
C_Σ	Cost of transmitting an atomic message
γ	Discount factor, $\gamma \in [0, 1)$
π_i	Local policy for agent i, mapping from $\vec{\mathbf{o}}^i = o_{i_1} \cdots o_{i_t}$ to actions a_i
π	Joint policy $\pi = \langle \pi_1, \ldots, \pi_n \rangle$
$E(\cdot)$	Expectation operator
h	Planning horizon
$\vec{\theta}_i^t$	Action-observation history, $\vec{\theta}_i^t = (a_i^0, o_i^1, \ldots, a_i^{t-1}, o_i^t)$
$\mathbf{\Theta}$	Set of joint types (Bayesian game), $\mathbf{\Theta} = \times_i \Theta_i$
I	Set of agents, indexed $1, \ldots, n$
Ω_i	Set of observations for agent i
o_i	Local observation for agent i
$\vec{\Omega}$	Set of joint observation, $\vec{\Omega} = \otimes_{i \in I} \Omega_i$
$\vec{o}$	Joint observation, $\vec{o} = \langle o_1, \ldots, o_n \rangle$
n	Number of agents
q_i	Local policy tree for agent i
R	Reward function (Dec-POMDP), $R(\vec{a}, s')$
R_i	Individual reward function for POSG $R_i(a_i, s')$
S	Set of states
s_0	Initial state
$\hat{s}_i$	Local state (in factored Dec-MDP), $\hat{s}_i \in S_i \times S_0$
Σ	Alphabet of communication messages
σ_i	Atomic message sent by agent i
$\vec{\sigma}$	Joint message, $\vec{\sigma} = \langle \sigma_1, \ldots, \sigma_n \rangle$
t	Time step $t = 0, \ldots, h-1$
V	Value function (expected discounted future reward)
$\widehat{V}$	Heuristic value function
φ^t	Partial joint policy (up to time step t), $\varphi^t = (\delta^0, \delta^1, \ldots, \delta^{t-1})$
u_i	Payoff function in Bayesian game