

**CAP6938**

Neuroevolution and  
Artificial Embryogeny

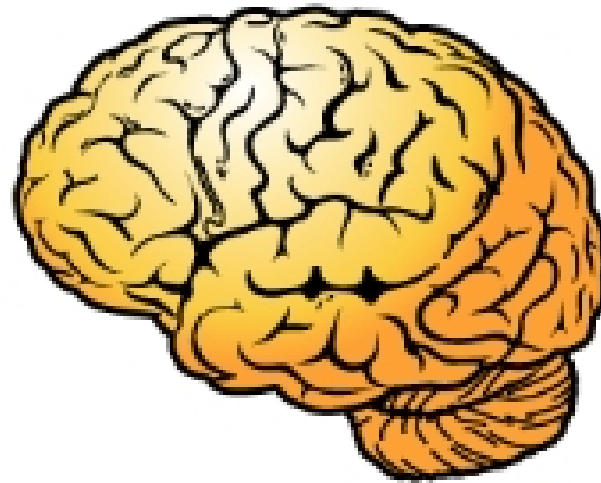
**Intro to Neuroevolution**

Dr. Kenneth Stanley

January 30, 2006

# Main Idea:

## Combine EC and Neural Networks



- “Evolving brains”:  
Neural networks compete and evolve
- Idea dates back to the late 80’s
- Natural: Only way that intelligence ever really was created
- Leads to many research challenges

# Advantage: Applies to Both Supervised and RL Problems

- If targets are provided, they can be used to calculate fitness
- Else, sparse reinforcement can also be used to calculate fitness
- RL is harder and frequently more interesting

