

Qualcomm Research Center / Brain Corporation
Computational Neuroscience Lecture Series

Universal Artificial Intelligence and Formal Theory of Fun

A talk by
Jürgen Schmidhuber

Friday, July 26th

Coffee reception: 9:30am-10:00am, Lecture: 10:00am-11:00am

Irwin M. Jacobs Qualcomm Hall
5775 Morehouse Drive
San Diego, CA 92121

This is a free event with free event parking

Prof. Jürgen Schmidhuber is with the Swiss AI Lab IDSIA & USI & SUPSI (ex-TUM CogBotLab & CU). Since age 15 his main scientific ambition has been to build an optimal scientist, then retire. This is driving his research on self-improving Artificial Intelligence. His team won many international competitions and awards, and pioneered the field of mathematically rigorous universal AI and optimal universal problem solvers. He also generalized the many-worlds theory of physics to a theory of all constructively computable universes - an algorithmic theory of everything. His formal theory of creativity & curiosity & fun (1990-2010) explains art, science, music, and humor.

Abstract:

Universal self-improving AIs can rewrite their own software in a provably optimal way. They may not only solve externally posed tasks, but also their own self-invented tasks, to better understand the world, in line with Schmidhuber's simple Formal Theory of Fun and Creativity, which explains science, art, music & humor. The tools for implementing such AIs that include the largest, evolved, vision-based neural network (NN) controllers to date will be described, as well as gradient-based fast, deep/recurrent NNs which have won many recent international pattern recognition competitions.