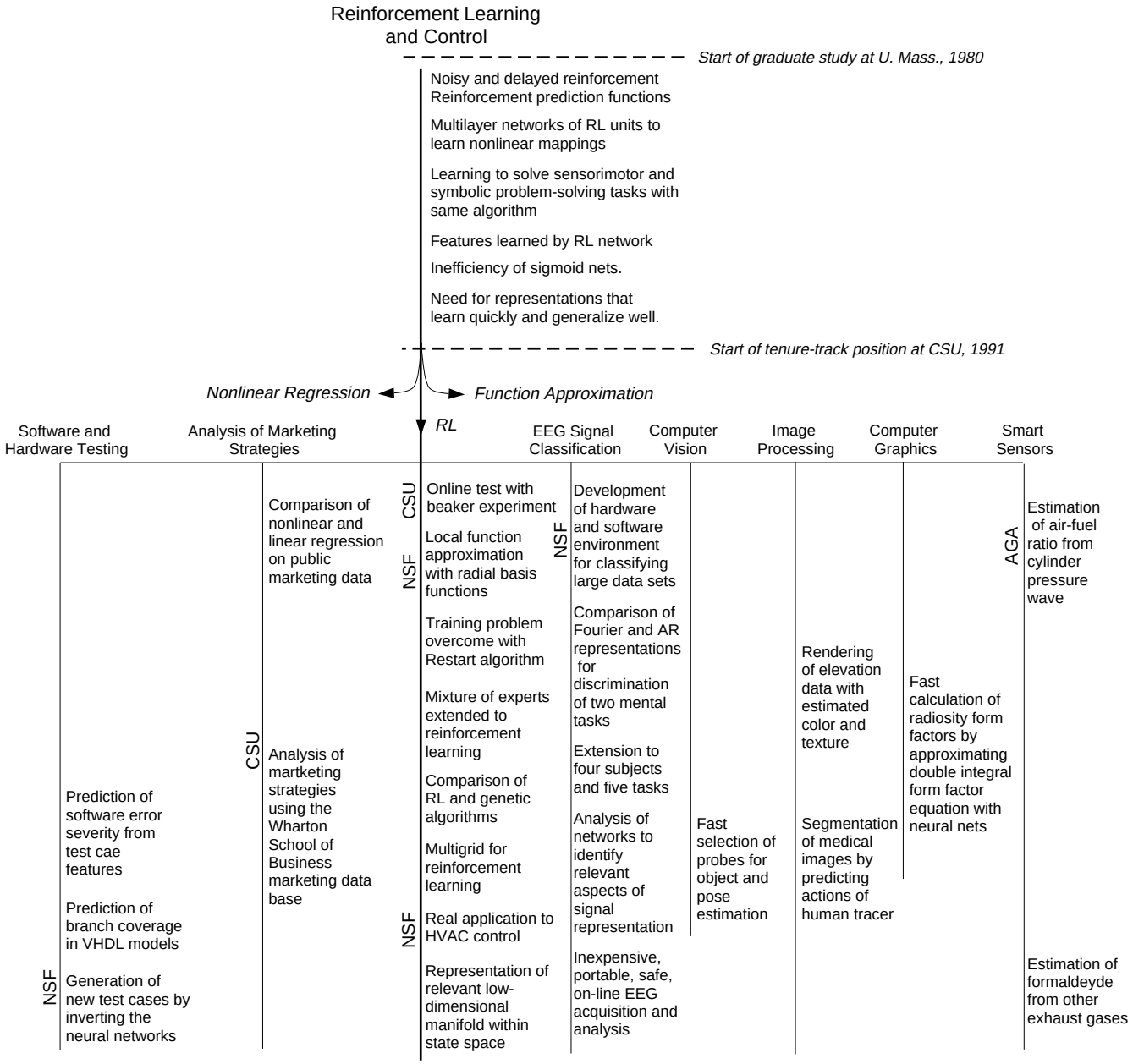
Reinforcement Learning and Control
Start of graduate study at U. Mass., 1980
Noisy and delayed reinforcement
Reinforcement prediction functions
Multilayer networks of RL units to learn nonlinear mappings
Learning to solve sensorimotor and symbolic problem-solving tasks with same algorithm
Features learned by RL network
Inefficiency of sigmoid nets.
Need for representations that learn quickly and generalize well.
Start of tenure-track position at CSU, 1991
Nonlinear Regression
Function Approximation
RL
Software and Hardware Testing
Analysis of Marketing Strategies
EEG Signal Classification
Computer Vision
Image Processing
Computer Graphics
Smart Sensors
NSF
Prediction of software error severity from test cae features
Prediction of branch coverage in VHDL models
Generation of new test cases by inverting the neural networks
CSU
Comparison of nonlinear and linear regression on public marketing data
Analysis of martketing strategies using the Wharton School of Business marketing data base
CSU
Online test with beaker experiment
NSF
Local function approximation with radial basis functions
Training problem overcome with Restart algorithm
Mixture of experts extended to reinforcement learning
Comparison of RL and genetic algorithms
Multigrid for reinforcement learning
NSF
Real application to HVAC control
Representation of relevant low-dimensional manifold within state space
NSF
Development of hardware and software environment for classifying large data sets
Comparison of Fourier and AR representations for discrimination of two mental tasks
Extension to four subjects and five tasks
Analysis of networks to identify relevant aspects of signal representation
Inexpensive, portable, safe, on-line EEG acquisition and analysis
Fast selection of probes for object and pose estimation
Rendering of elevation data with estimated color and texture
Segmentation of medical images by predicting actions of human tracer
Fast calculation of radiosity form factors by approximating double integral form factor equation with neural nets
AGA
Estimation of air-fuel ratio from cylinder pressure wave
Estimation of formaldeyde from other exhaust gases