Knowledge Transfer

Sharing our strategies...

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Objectives

✿ Facilitate and coordinate industrial collaboration

✿ Activities to promote collaboration
  ▪ workshops
  ▪ meetings with industrial collaborators
  ▪ Identify joint project opportunities,
  ▪ etc.

✿ Interface with university IP offices
  ▪ With Managing Director work with BEACON universities’ IP offices
  ▪ Help negotiate intellectual agreements between universities and companies (NDAs, MOUs, etc.)

✿ Launch an Industrial Affiliates Program
  ▪ Outreach
  ▪ Data sharing
  ▪ Identification of synergistic research projects
Background

🌟 Professor of Computer Science and Engineering

🌟 Research:
- Model-driven engineering of high-assurance adaptive systems
- Harnessing Evolutionary Computation to support ULS

🌟 20 years of industrial collaborations
- Ex: Eaton, Ford, GM, Texas Instruments, Motorola, General Dynamics, Siemens, IBM

🌟 Different types of collaborations:
- Research (grants and contracts)
- Term projects
- Student fellowships
- Faculty sabbatical

🌟 Setting up IUCRC (for Ultra-Large Scale Systems), Site Director
- Multiple universities; multiple companies
- Single IP agreement
Technology Exchange and Impact

* Provide an **Evolution in Action** Think Tank for current and future needs.

* Strive for 2-way technology exchange

* Industry provides problems and technical challenges
  - Go beyond “contract-based” relationship

* BEACON provides industry-relevant technology and/or solutions
  - Academic and university jointly developed
Strategy

- Work with small number of industrial collaborators
  - Represent different application domains

- Have already identified candidate collaborators
  - History of collaboration
  - Have already provided data and/or problems

- Identify thrust groups and enabling technologies
Industry Participation

* Provide realistic (industrial-strength) data
  - Sanitized
  - Real-world constraints/conditions

* Identify challenges and concrete problems

* Provide feedback on preliminary results

* Identify point of contact

* Outreach:
  - Explore summer internships
  - Class projects
  - Member of technical staff sabbaticals in BEACON
  - Faculty sabbaticals
Early Plans

- Kickoff meeting with industrial collaborators
  - Learn about industry challenges/problems
  - Industry exposed to existing and new capabilities
  - Identify potential tangible results
  - Identify measures for success (validation?)

- Identify longer term research areas
  - Identify difficult problems
  - Contribute to defining vision for BEACON

- Identify shorter-term results
  - Explore joint IP ventures as appropriate
  - Different funding models (e.g., contracts, mini-grants, etc.)
Growth Plans

* As research collaborations further solidify
  - Recruit additional industrial partners
  - Expand the problem domains

* Explore migration paths for research
  - Pilot projects in industry
  - Incorporation into methodologies/tools
  - Documented case studies
  - Commercialization of research results

* Explore sustainable funding models
  - Longer term contracts/grants to universities
  - Spin-off companies
  - etc.