University-Industry Collaboration

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Q: How many university-industry collaborations are there at your organization?

A: We have 130 collaborations listed in our latest semi-annual report (for about 25 principal scientists). Probably 1/3 are truly active. Four of NECI's Fellows are also university faculty members.

Q: What fraction of your overall effort does this represent?

A. Probably about 1/3 of our overall research, concentrated at the more basic research end of the spectrum.

Q: How is IP ownership handled?

A: In many cases NECI pays the university collaborator as a consultant and owns all the IP. In some cases -- e.g. where university facilities or a group is involved, or where NECI and the university get government grants -- NECI and the university split the IP 50/50. Anything done solely by either party is wholly owned by that party.

Q: Who pays for the research?

A: Generally NECI does (out of NEC corporate funds). However some collaborations involve expenditure from both sides, and collaborations under government funding are paid (in part) by government funds.

Q: What is exchanged between the university and industry? (e.g. money, students, equipment, IP ownership, space, etc.)

A: NECI pays money for faculty time (as consultants or part-time employees), post-docs/students, samples/data, lab work (for bio and physics research). NECI also (sometimes) provides equipment, especially surplus equipment, to universities. The main NECI goal is to generate IP, and/or access to knowledge and facilities.

NECI has been a member of local university affiliate programs. We also pay to use the Princeton clean room facilities.

Positive example cases (all positive cases are alike; all negative cases are negative in their own distinct ways):

1. Web computing and commerce (with Penn State).

-Analyzed robust hyperlink mechanisms

-Built source code search engine

-Built program for trading agent competition

-Conducted lab experiment for recommender systems

-Analyzed new auction settings

2. Recommender systems (with University of Pennsylvania and University of Minnesota)

-Developed three-way aspect model and variants to combine content and collaborative data for recommender systems

-Built open API recommender system framework

-Developed decision-theoretic agent to play "Who wants to be a millionaire?"

Outcomes: Papers, patent disclosures, chance to look at students and judge who we should try to hire.

Bad cases of collaborations:

1. NECI has a sabbatical program. The program pays all costs (salary, travel, equipment, etc.) for an NECI scientist. A scientist arranged for a visit to University X. Close to the time of the sabbatical start, we tried to settle an IP agreement. University X demanded 100% ownership of any IP generated by the scientist during the visit in exchange for providing office space. Extensive effort (by me and sympathetic faculty at University X) failed to get a better deal. I hoped that the scientist would not come up with anything important during the sabbatical (he didn't). Postscript: he's now a faculty member at University X….

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2. A faculty member at University Y who consulted with NECI gave a talk, inspiring NECI scientists to undertake research on topic Z. Shortly after, both the University Y faculty member and an NECI scientist independently filed quite different patent applications on topic Z, and NEC started a spin-off company to commercialize its work. The faculty member threatened a lawsuit unless he were paid an on-going fee for licensing his patent. NEC lawyers caved in. The start-up failed, expensively. NEC paid license fees for about five years under the terms of the agreement.