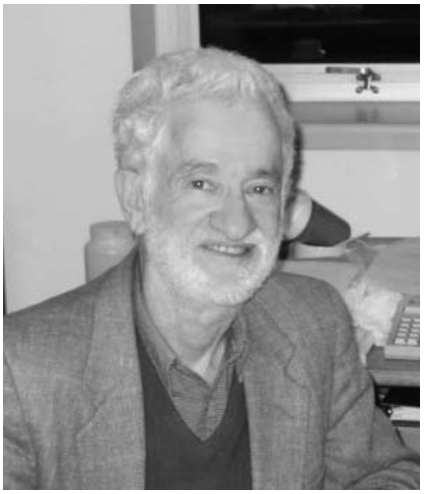
Perspectives



Is engineering a viable profession in the US?

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THERE ARE MANY well-educated engineers in countries such as Russia, China, Romania, and India, who can do the work currently done by US-based engineers, and whose pay scales are less than 25% that of US pay scales. US companies exploit this situation by creating satellite operations in low-pay countries or by contracting out work to overseas companies. They also bring into the US, under special temporary visa programs (H-1B and L-1), engineers from low-pay countries, who are happy to come here and work long hours for salaries roughly 70% that of US citizens or permanent residents.

This extends to professional employees a process that has eliminated the jobs of millions of US factory workers. (Many manufacturing jobs have also been eliminated by automation, but this does not lessen—perhaps it heightens—the importance of additional job loss via the export of jobs and import of workers.) When companies eliminated US manufacturing jobs, they told everyone that US workers didn't want these jobs, which the economy would replace with higher-level jobs. This is not happening. Rather, the same mechanism that eliminated the jobs of most shipyard workers is now threatening the livelihoods of electrical engineers in the US. Other professionals are also starting to feel the pinch, including accountants, architects, and radiologists.

In India, 1,400 (soon to be 3,000) Intel employees are developing hardware designs for microprocessors and chipsets. They are designing and developing next-generation Ethernet switching silicon and network processors. Texas Instruments India has more than 1,000 people working on chip design. Motorola, IBM, Sun, and other companies also have engineering facilities in low-pay countries and bring engineers from those countries to the US (http://www.nasscom.org/artdisplay.asp?Art_id=2348).

A great deal of nonsense has been written about this situation, usually by spokespersons of corporations that, at least in the short term, benefit from reduced payrolls. They tell of a shortage of engineers in the US, due mainly to deficiencies in the teaching of math. This despite the fact that hundreds of thousands of competent, well-educated US engineers, unable to find engineering jobs, have retired early or taken jobs in fields such as real estate or retail sales. The same people urge US engineers to develop skills in "more advanced" fields, such as nanotechnology, as if engineers abroad were somehow incapable of doing the same.

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The engineers from the low-pay countries are not causing the problem. They are, for the most part, decent, honest people trying to improve their lives through hard work. You cannot even blame companies taking advantage of the situation; the root cause is a system that allows—or even encourages—companies to engage in this process. A company refraining from payroll slashing might find itself undercut by less-scrupulous competitors in the US or abroad.

Allowing companies to treat people like commodities for rent at the lowest possible price on a global basis is unjustifiable by slogans about free trade. What the US needs is legislation that eliminates or greatly reduces the H-1B and L-1 programs, and penalizes—via taxation and tariffs—companies that set up overseas operations designed to use low-paid workers, or that export goods or services to the US at significantly deflated prices because they use low-paid workers or violate environmental standards.

ALTHOUGH THIS DISCUSSION has been in terms of the situation in the US, it clearly applies to other industrialized countries. The article, "Making Computer Professionals and Other Engineers Low-Priced Commodities," provides a more extensive treatment, including important references (http://www1.cs.columbia.edu/~unger/articles/careerThr11-17-03.htm). ■

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