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Testimony of Mr. Nagappa Ravindra, P.E.
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Subcommittee on Contracting and Workforce
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Chairman Hanna, Ranking Member Meng, and members of the committee, I appreciate the opportunity to testify in today's hearing on how the STEM workforce shortage is affecting small firms.

My name is Nagappa Ravindra and I am the President of Ravi Engineering & Land Surveying. We are a small engineering consulting firm based in Rochester, New York. I am here today to testify about how H-1B visas are essential to small engineering firms that need to hire engineers with specific skill sets in order to serve our clients' needs. I also want to tell you my story, and how my firm would not exist without work visas for engineers.

I am a member of the American Council of Engineering Companies (ACEC), the voice of America's engineering industry. ACEC members – numbering more than 5,000 firms representing hundreds of thousands of engineers and other specialists throughout the country – are engaged in a wide range of engineering works that propel the nation's economy, and enhance and safeguard America's quality of life. Over 70 percent of ACEC's members are small firms.

My firm Ravi Engineering & Land Surveying, P.C. has been in business since 1995. I came to this country in 1980 after graduating from the Indian Institute of Technology, Madras, India, with a Bachelor of Science degree in Civil Engineering. I got my Master's degree in structural engineering from Syracuse University and started my career as a structural engineer in a consulting firm in

Syracuse, New York. I was able to get a green card within 9 months with the help of my employer and became a citizen at a later time. After training for 8 years, I moved to Rochester, New York to accept a higher position in another consulting firm and worked another five years before starting my own business in 1995. I started a consulting engineering firm providing structural engineering services and went on to add employees and offer other services such as bridge design and inspection, land surveying, construction inspection, environmental and geotechnical engineering. Currently, we average 90 employees and have three offices in New York and one in Pittsburgh, Pennsylvania.

As a member of ACEC, we advocate for a quality based selection process and we compete for work based on the strengths and talents of our employees. To win projects, we need to demonstrate exceptional qualifications and experience. So, in order to grow and succeed, we need experienced as well as entry level engineers who are exceptional and talented individuals. Our growth is limited because of a lack of qualified people in our industry. Currently, we have vacant positions we cannot fill due to a lack of experienced engineers.

Because there are not enough engineers with the skill sets we need, we currently employ one engineer on an H-1B visa, and a student on an OPT visa. We had hoped to transfer the student to an H-1B visa, but as you know, the current cap of 65,000 was met in just five days and our labor certification could not be completed in time.

Engineers and the engineering industry are major economic drivers and play an essential role in helping the U.S. compete in the global economy. Engineers are in high demand, but the output of new engineers from the nation's universities is not keeping up with the needs of the industry and the nation.

Bachelor's degrees in engineering have declined by nearly 20 percent since 1985. The workforce is also getting older: nearly 30 percent of all engineering and science degree holders in the labor force are 50 or over and are headed toward retirement.

There is also greater competition for the diminishing pool of engineering graduates, particularly from the information technology industry seeking the skill sets that engineering graduates provide. Only half of engineering degree holders work in the engineering field. According to Duke University, between 30 and 40 percent of graduates from the University's Masters of Engineering Management program take jobs *outside* of the engineering profession.

Moreover, the proportion of foreign students earning engineering degrees at American universities is quite high. According to the American Association of Engineering Societies, for the 2008-2009 academic year, foreign nationals comprised 43.9 percent of the Master's and 54.6 percent of the Ph.D.s awarded in engineering by U.S. universities.

With so many engineers graduating from American universities and working in other fields, it does not make any sense to send trained foreign engineers home to work for our competitors in the global marketplace. If I had not been given the opportunity to stay and work in the United States, 90 American workers would not have the job opportunities provided by my firm. My story is not unique. Speaking from my personal experience, nearly half of my graduating class of 220 students from Indian Institute of Technology, Madras, India came to the United States in 1980 to pursue higher education. Out of that pool of 110 engineers who came to this country, today, nearly 30% have their own businesses employing a large number of Americans, about 20% are CEO's, CTO's, General Managers and senior officers in Fortune 500 companies, 20% are professors, deans and educators in premier institutions and the remaining have become venture capitalists and successful investors.

I strongly believe that the United States needs to invest in talented and young engineers similar to investing in our roads, bridges and infrastructure as a long term strategy for growth and prosperity. I urge Congress to strengthen and expand the H-1B visa program so that firms like mine will be able to hire the necessary engineering talent to serve our clients' needs and continue to grow and thrive. Thank you for the opportunity to participate in today's hearing, and I would be happy to respond to any questions from committee members.