PROFILE

NAME:	Tyler C. Folsom
RESEARCH AREA:	Robotic Transportation, Computational Intelligence, Machine Learning.
LABORATORY:	Cogneta Inc. (www.cogneta.com)
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MESSAGE

Tyler C. Folsom was born in Seattle Washington, USA, but grew up in several other US cities. He earned a bachelor 's degree from Villanova University in mathematics. He received the Master of Arts in mathematics from the University of Maryland. He went to work for Sperry Univac Inc. and helped program the real-time control systems for two unmanned spacecraft at NASA's Goddard Space Flight Center.

He then quit to bicycle around the world. He crossed the United States from east to west and then flew to Japan for five weeks of cycling. He continued across Asia on the overland route through the Indian subcontinent to Europe. He traveled from Greece to Spain via the Arctic Circle and then spent nine months in Africa. He finished the trip by flying to Seattle, where he has lived ever since. With a thorough grounding in computer software, he then studied the hardware, earning a Master's degree in Electrical Engineering from the University of Washington.

He went to work for Macotech Inc., writing software to adaptively control industrial milling and drilling machines, as well as modeling metal cutting behavior. When that company became insolvent, he changed to QUEST Integrated Inc., which eventually purchased Macotech. At QUEST, Tyler wrote software and managed technology development projects for a wide range of clients in government and industry. Government research has been commercialized as products that QUEST manufactures. Most systems include mechanical, electrical, optical and software components. Some representative systems that he has helped develop are:

- Optical non-contact instrument to measure corrosion in the interiors of boiler tubes.
- Non-contact instrument to measure inside and outside diameters of radiator hoses.
- Machine to optically measure several critical parameter of interior threaded parts.
- Vision guided machining of an exotic material for a supplemental automotive catalytic converter.
- Control systems for cleaning or machining nuclear reactors.
- Automatic formatting of telemetry for flight test.
- Inspection of laps and gaps in composite material.
- Automatic identification of flaws in the exterior of aging aircraft.

He returned to the University of Washington to earn the PhD in Electrical Engineering. His dissertation was "Neural Networks Modeling Cortical Cells for Machine Vision".

In 2000 he began teaching at DigiPen Institute of Technology, reaching the rank of full professor. He wrote the stereo vision system for Team Sleipnir, an entry in the DARPA Grand Challenge. This was a contest offering a $2 million prize in a 200 km race for autonomous vehicles across the California desert. He led the University of British Columbia's (Canada) team in the DARPA Urban Challenge, a race for autonomous vehicles in traffic. He co-founded Cogneta Inc. to commercialize autonomous vehicle technology.

Dr. Folsom's current interest is in implementing an urban transportation system that can achieve 0.25 l/100 km equivalent, not require fossil fuel, and reduce accident rates by a factor of 30. The system is projected to be more compact and less expensive than alternative transportation modes. The approach is a software and systems method that does not require advances in vehicles, batteries or infrastructure. It uses open source for hardware and software to demonstrate how such a system can work. People anywhere in the word can participate via the Internet.

Tyler married Frances Solomon in 1981. He is still an avid cyclist.