

Evan Lim
Colorado School of Mines
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From a young age, I have been fascinated by the outdoors, the earth, and the environment. Starting at Mines, I was set in pursuing a degree in environmental engineering. However, during my first year at Mines, I found my niche in the computer science degree; not for a love of computers, but rather a love for the applications to environmental sciences. I quickly realized the power of software automation during a first semester class project to create a simulation of an automated sustainable energy system. It is my ongoing goal to use my expertise in software engineering to make an impact on environmental health and safety.

One of the projects I am currently working on at Mines, is an autonomous surface vehicle for conducting bathymetric surveying and taking water samples in reservoirs. It has opened my eyes to technological solutions for protecting and preserving our environment, as well as creating a safer workplace and field experience for employees. Beyond the classroom, I utilize many facets of Engineering in my personal projects. I am building a sustainable, minimal footprint greenhouse and the surrounding business model for my backyard business. I'm implementing a diversified, low carbon, renewable energy system, and utilizing aquaponic and permaculture techniques to minimize the use of precious resources and to reduce waste. Software, data analytics, and robotics are being utilized to maximize efficiency and collect data on my experiments. I am using knowledge gained from a past project at Mines (through the Human and Robotic Interaction Lab) to address the issues of workplace safety. The goal is to seamlessly integrate plant, animal, robot, and human interactions using software and algorithms.

I believe that while it is important to look toward the future in technology and policy, it is imperative to educate current and future generations in the field of environmental health and safety. Since I am an alumni of the 4-H livestock and agriculture program, I returned as a 4-H leader working to educate youth in safe, ethical, humane, and sustainable agriculture practices. I plan to continue my involvement with 4-H hoping to further my impact in environmental education. Future plans include attending law school to satisfy my growing interest in environmental policy, and its effects on emerging technologies. I hope to be able to bring some of that knowledge back to Mines and offer some evening courses that blend technology, and environmental policy, health, and safety.

In my life, it is my goal to use the many tools I have gained to positively impact the environment. I am passionate about reducing waste and reusing our resources, limiting the impact of agriculture and manufacturing on the environment while producing the necessary quantity for a growing population, and restoring endangered species. As I develop my skills in technology, engineering, and law, I know I am on a path to a fulfilling and interesting career.