Electromyography: The Future of Robotic Prosthetics

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The world is plagued with dangerous situations including everything from accidents to wars, that often result in people losing a hand, arm or leg. Industrial accidents, as a result of dangerous processes, faulty equipment, or poor safety practices can also lead to limbs being severed with no hope of reattachment. Prosthetic limbs can be very expensive and do not necessarily provide a patient with an aesthetically pleasing or functional replacement. However, there have been tremendous advancements in technologies such as 3D printing, micro miniature motors, controllers and materials, which can be easily adapted to provide low-cost, functional solutions. I propose that I can develop a low cost, 3D printer-based robotic hand that can be easily modified for use by many different people. This hand will use 3D printer plastic and servo motors to provide movement and low cost Arduino-type microprocessor components to provide control.

Awards Won: