ELECTROMYOGRAPHIC SIGNAL PROCESSING FOR PROSTHETICS

SOFTWARE
Algorithm that facilitates graded and seamless movement of an upper limb prosthesis through enhanced electromyographic signal processing.

TECHNOLOGY SUMMARY
There are over 2 million amputees in the United States, all of whom face challenges that impact their quality of life. Innovations in myoelectric prosthetics are emerging that enable better prosthetic-amputee control and interaction, and displace passive, older prosthetics. Yet, current models of myoelectric prosthetics rely on low degree-of-freedom decoding methods that create obstacles to graded movements and require significant contractile force to stimulate.

Software designed using a Kalman filter enables individual digit, wrist, elbow, and shoulder control for transhumeral and above amputees. The algorithm allows real-time, proportional, intuitive control of the prosthesis, with no need for recalibration. This gives prosthetics capabilities more akin to natural limbs and improves users' quality of life.

FEATURES AND BENEFITS
- Can be used with any number and type of electromyographic electrodes.
- Trainable algorithm responds to a simple calibration routine.
- Output is user-adjustable without assistance of prosthetist.

RECENT PUBLICATIONS

INVENTOR PROFILE
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