



# Animatronics – Senior Electrical Engineer

**Reports to:** Head of Animatronics

**Location:** Miramar, Wellington

The purpose of the role is to design and implement advanced electrical systems for humanoid and creature robotics, working closely with mechanical and software teams to create and develop cutting-edge humanoid and creature animatronics.

## Key Accountabilities & Outcomes

- Design and implement electrical systems for complex robotic characters, ensuring high performance, durability and reliability.
- Develop and build high quality control cabinets for power and control logic
- Design custom PCB's for power, encoder and communications
- Implement and troubleshoot with various communication protocols, such as RS485, CAN, CANFD, and EtherCAT.
- Design and implement high-grade cabling and connector assemblies for advanced animatronic mechanisms
- Collaborate with mechanical and software teams to integrate electrical systems seamlessly into a broad range of mechanical designs.
- Troubleshoot and resolve electrical issues in our animatronic systems.
- Develop and optimize control systems for high-performance actuators and animatronic mechanisms.
- Contribute to developing standard operating procedures and documentation for animatronic systems.

## Skills & Experience

### ESSENTIAL

- Bachelor's degree in Electrical Engineering or related field, or equivalent work experience
- Holding a National Certificate in Electrical Engineering Level 4.
- Proven experience in designing electrical systems for robotics or animatronics.
- Proficiency in electrical design software and PCB layout (e.g., Kicad).
- Experience with embedded systems and firmware development.
- Knowledge of motor control systems and actuator technologies.
- Knowledge of a range of encoder and feedback systems
- Familiarity with communication protocols such as RS485, CAN, CANOpenFD, and EtherCAT.
- Strong problem-solving skills and attention to detail.
- Ability to rapidly adapt, problem-solve and work efficiently in a fast-paced environment.

## DESIRABLE

- Experience with Linux-based systems.
- Knowledge of 3D printing technologies in advanced mechanical systems or robotics.
- Familiarity with animatronics or creature effects in film and entertainment.
- Experience with external vendors and PCB manufacturing processes.

## Key Working Relationships

### INTERNAL

- Animatronics Team
- Head of Animatronics
- Project Supervisors
- Other Workshop HODs and Teams

## Change to Job Description

JD Completed on: November 2025 Review Date: November 2026