

# SANTIAGO CADAVID

## Biomedical Engineer

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Auckland, New Zealand

## PROFILE

I am a biomedical engineer with experience measuring, acquiring and processing physiological human signals as well as controlling environmental variables in hospitals and clinical laboratories. I have a good understanding of a wide range of medical devices, electronics principles and medical concept which allow me to liaise between the clinical personnel and engineers making me an effective member in cross-functional teams. On top of my technical background, I have a general understanding of ICT management and digital transformation at a corporate level with emphasis on innovation and marketing due to my recent studies in technology management.

## EXPERIENCE

### Biomedical Engineer

#### BV Medical

October 2020 – Currently    Auckland, NZ

- To carry out Performance Verification of medical devices according to the agreed company protocols.

### Assistant manager

#### MK RD Limited

August 2018 – October 2020    Auckland, NZ

### Field service engineer

#### Iforware S.A.S.

January 2017 – June 2017    Medellín, Colombia

- To design and create prototypes using open-source electronic prototyping platforms (i.e. Arduino) and commercial electronics.
- To operate with a variety of analog and digital transducers (temperature, humidity, dew point, gas concentration) for industrial and healthcare applications.
- To design and develop printed circuit boards (PCB) and assemble them.
- To develop hardware of traceability, telemetry and control.
- To support software tests in traceability, telemetry and control.
- To keep the correct operation of sensors and the telemetry system that were installed in hospitals and laboratories.

### Research Fellow

#### Instituto Tecnológico Metropolitano

January 2016 – December 2016    Medellín, Colombia

- To evaluate different kinds of electrodes and their position configurations to improve the signal-noise ratio during surface electromyography (sEMG) signal acquisition.
- Acquisition of sEMG signals in healthy people during motor gestures involved during swallowing.
- To evaluate the activation patterns of each motor gesture performed.
- To prepare and carry out a workshop for students from different universities about electromyography and its applications.

## SKILLS

Electrical/Electronics    Science  
Physics    New enterprise development  
Technology Marketing  
Digital signal acquisition  
Digital signal processing  
Surface electromyography  
Swallowing disorders  
Academic and clinical research

Polygraph medical devices  
Mechanical ventilators  
Physical exam medical devices  
Laboratory medical devices



Microsoft Office    MATLAB    LabChart  
LaTeX    Arduino    PCB design software

Curious    A innate talent to teach  
Innovative    Approachable attitude  
Commitment

## LANGUAGES

English  
Spanish



## EDUCATION

BSc(Eng) Biomedical Engineering  
Instituto Tecnológico Metropolitano (ITM)  
2012 – 2017

Diploma level 7 in Technology  
Management  
Aspire2 International  
2017 – 2018

## PUBLICATIONS

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### Journal Articles

- Cadavid-Arboleda, Santiago et al. (2017). **"Assessment of Surface Electromyography During Orofacial Praxis in Healthy Subjects"**. In: *VII Latin American Congress on Biomedical Engineering CLAIB 2016, Bucaramanga, Santander, Colombia, October 26th -28th, 2016 60*, pp. 165–168. DOI: 10.1007/978-981-10-4086-3. URL: <http://link.springer.com/10.1007/978-981-10-4086-3>.
- Cantillo-Mackenzie, German et al. (2017). **"Surface Electromyographic Characterization of Five Orofacial Ideomotor Praxis in 20 Healthy Individuals"**. In: *VII Latin American Congress on Biomedical Engineering CLAIB 2016, Bucaramanga, Santander, Colombia, October 26th -28th, 2016 60*, pp. 221–224. DOI: 10.1007/978-981-10-4086-3. URL: <http://link.springer.com/10.1007/978-981-10-4086-3>.
- Restrepo-Agudelo, Sebastian et al. (2017). **"Improving surface EMG burst detection in infrahyoid muscles during swallowing using digital filters and discrete wavelet analysis"**. In: *Journal of Electromyography and Kinesiology* 35, pp. 1–8. ISSN: 10506411. DOI: 10.1016/j.jelekin.2017.05.001. URL: <http://www.sciencedirect.com/science/article/pii/S1050641116302991>.

## ADDITIONAL INFORMATION

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- Open work Visa permit.
- NZ full driver license.

## REFERENCES

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