SANTIAGO CADAVID

Biomedical Engineer

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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

- Performs preventive/scheduled maintenance on medical devices, and installs, calibrates, repairs and inspects medical equipment.
- Participates with the team on medical equipment evaluations, installations and upgrades, including software revision.
- Teaches clinical and technical staff of the medical centres on the operation, safe use, care and handling, and user maintenance procedures for medical equipment.
- Performs equipment repairs of substantial difficulty to a level requiring generic test instrumentation, or diagnostic software.
- Conducts complete performance assurance and electrical safety testing.
- Determines the need to remove and/or replace malfunctioning medical devices from service and implements accordingly.

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.

SKILLS

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

Polygraph medical devices ●●●●●
Physical exam medical devices ●●●●●
Surgical medical devices ●●●●○
Mechanical ventilators ●●●●○
Laboratory medical devices ●●●○○

Microsoft Office | MATLAB | LabChart | LaTeX | Arduino | PCB design software | HTML | Fusion 360

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 (New Zealand)

2017 – 2018

RESEARCH EXPERIENCE

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.

PUBLICATIONS

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

- Open work Visa permit.
- NZ full driver license.
- Electrical Appliance Serviceperson (EAS) / Credential ID EAS-TLC 154510

REFERENCES

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