Jose Diaz Beltran

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TECHNICAL SKILLS

Computer Software	• Familiar with MS Office software Word, Excel, PowerPoint, and Outlook
CAD & Design	• Experience using SolidWorks, AutoCAD, ANSYS Structural, and Fusion360
Programming Languages	• Experience programming in C, Python, Visual Basic, MATLAB, and programming Arduino
Other Software & Tools	• Familiar with electronic components, sensors, analysis tools, and VICON Motion Capture

EDUCATION

Master of Engineering, Mechanical and Materials Engineering (Engineering in Medicine) Sep 2020 – Sep 2021
University of Western Ontario, London, ON

- Awarded $1000 University of Guelph Entrance Scholarship
- Expected graduation June 2020

Bachelor of Engineering, Biomedical Engineering (Co-op) Sep 2015 – June 2020
University of Guelph, Guelph, ON

- Awarded $1000 University of Guelph Entrance Scholarship
- Expected graduation June 2020

WORK AND RESEARCH EXPERIENCE

Construction Safety Analyst Toronto, ON May – Aug 2019
Toronto Transit Commission (TTC) – Engineering, Construction, and Expansion (ECE) Group

- Acted as the primary source of data analytics for the TTC Safety & Security team
- Managed, maintained, and reported on a total of 12 Excel databases
- Analyzed and reported on the ECE group's monthly and yearly key performance indicators (KPIs)
- Designed and implemented two tracking and reporting tools for storage and reporting of safety data to support the Certificate of Recognition (COR) project

Research Assistant Toronto, ON Jan – Aug 2018
Toronto Rehabilitation Institute – University Health Network (UHN)

- Conducted analysis of fall incidents across hospital which involved weekly coding of incidents, organizing, and updating of Excel database to identify trends in data
- Prepared monthly report and presentation for *Falls & Restraints Committee* to provide update on hospital units' performance in fall incident reduction
- Assisted in data analysis for field-study looking at Personal Support Workers (PSWs) slip and fall reduction in winter through the use of lab tested footwear
- Supported Master student's project by collecting and analyzing video data on Adobe Premier and MATLAB, and facilitating data collection by designing a tool using CAD to improve accuracy of video data

Lab Assistant Guelph, ON Sep – Dec 2017
Dairy Analysis Lab – University of Guelph

- Operated testing instrumentation and properly handled and disposed of dairy samples
- Trained in WHMIS and MSDS, followed lab SOPs and quality procedure
- Attentively analyzed results for any values outside accepted range

Summer Co-op Student Guelph, ON Jun – Aug 2017

VIQUA – A Trojan Technologies Company

- Tested various models of water filtration systems following company procedures and recorded data
- Problem solved by identifying problem on faulty systems and developed plan to correct it if possible
- Assisted with quality control by attentively checking for flaws in welding in stainless-steel water chambers
- Accurately interpreted 2D engineering drawings of chambers in order to properly stud-weld ground screw onto chamber

VOLUNTEER EXPERIENCE

Promoting Officer Guelph, ON Sep 2018 - Present

Hands of Latin America (HOLA) – University of Guelph

- Assisted with planning and co-ordination of approximately seven fundraising events per semester
- Promoted HOLA events and club mission by giving several class presentations
- Assisted in leading and planning of weekly club meetings

PUBLICATIONS AND PRESENTATIONS

Co-author:

Bagheri Z.S., **Diaz Beltran J.**, Holyoke P., Sole G., Hutchinson K., Dutta T. (2019) Reducing the Risk of Falls by 78% with a New Generation of Slip Resistant Winter Footwear. In: Goossens R., Murata A. (eds) *Advances in Social and Occupational Ergonomics. AHFE 2019. Advances in Intelligent Systems and Computing*, vol 970. Springer, Cham. DOI 10.1007/978-3-030-20145-6_27

Poster Presentation:

Diaz Beltran J., Bagheri Z.S., Holyoke P., Dutta T. (2019, January) *Personal Support Worker Fall Prevention Using Slip Resistant Footwear.* Poster session presented at the annual Toronto Rehab Research Day, Toronto, ON.

RELATED COURSEWORK

Engineering Biomechanics	Studied optimal wall sit knee angle for maximal muscle activation using VICON motion capture and EMG data, data was processed and analyzed on MATLAB
Bioinstrumentation Design	Development of wearable pressure ulcer risk monitoring device integrating force, temperature, and acceleration sensors and programmed using Arduino IDE on a Teensy 3.5 microcontroller
Engineering and Design IV	Development of an electric assistive pedaling bike system for knee rehabilitation which varies the resistance of the pedal specifically for injured leg
Finite Element Analysis	Performed static Finite Element Analysis of 3D modelled arbor press using ANSYS Structural Analysis software