

# JUAN PABLO FORERO

Electronics Engineer & Computer Scientist

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I am an electronics engineer and computer scientist with nine years of experience developing in-whole high-fidelity integrated solutions. My areas of technical expertise range from the physical layer (e.g., simulation, electronics design, embedded architectures, and firmware development) to the application layer (e.g., control algorithms, signal processing, machine learning, and mobile app development). Beyond implementation capabilities, my professional career has also provided me with ample exposure to industry, academia, and entrepreneurship. These experiences have allowed me to remain in the vanguard of technological innovation, establish meaningful synergies between these domains, and drive high-impact social initiatives. Through learning, creating, and innovating, my focus is to open up avenues to enhance peoples' lives.

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|-----------------|---|-----------------------|
| 01/22 - Present | <b>Senior Research Engineer</b><br>Samsung Research America - Think Tank Team<br>Embedded Software & Hardware, Electronics, Machine Learning  | Mountain View,<br>USA |
| 10/18 - 12/21   | <b>Lead Senior Research Engineer</b><br>The University of Auckland - Auckland Bioengineering Institute<br>Embedded Software & Hardware, Electronics, Digital Signal Processing, Machine Learning                      | Auckland, NZ          |
| 01/17 - 06/18   | <b>Research Engineer</b><br>Samsung Research America - Think Tank Team<br>Embedded Software & Hardware, Electronics, Digital Signal Processing, C++, Android  | Mountain View,<br>USA |
| 06/14 - 12/16   | <b>Research Engineer</b><br>SUTD University - Augmented Human Lab<br>Embedded Software & Hardware, Electronics, Android   | Singapore             |
| 05/13 - 01/14   | <b>Visiting Researcher</b><br>Almende - Organizing Networks<br>Machine Learning, Computer Vision, Digital Signal Processing, Android  | Rotterdam, NL         |
| 09/11 - 05/13   | <b>Research Assistant</b><br>La Salle University, URL - Robotics and Electronics Lab<br>Simulation, Embedded Software & Hardware, Electronics   | Barcelona,<br>Spain   |
| 09/20 - Present | <b>Foundation Engineer</b><br>Korawai Limited – Company No 8174323<br>Embedded Well-being & Healthcare Solutions  | Auckland, NZ          |
| 07/19 - Present | <b>Founder and Member of the Board</b><br>The Linked Horizons Foundation - Trust No. 56814 / Charity Registration No. CC56814<br>Charity that aims to provide children with equal access to educational opportunities | Auckland, NZ          |

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|---------------|--|------------------|
| 12/18 - 12/20 | <b>Master of Engineering, Electrical Engineering &amp; Computer Science</b><br><a href="#">The University of Auckland</a> - Thesis First Class Honors<br>OM: A Comprehensive Tool to Elicit Subjective Vibrotactile Expressions Associated with Contextualised Meaning in Our Everyday Lives | Auckland, NZ     |
| 09/16 - 01/17 | <b>SMART Innovation Fellowship Program</b><br><a href="#">SMART</a><br>Grant opportunity that enables faculty and students to pursue exciting new avenues of market-driven research and participate in programmes that will help accelerate their innovations toward commercialization       | Singapore        |
| 09/08 - 06/13 | <b>B.S. Electrical Engineering &amp; Computer Science</b><br><a href="#">La Salle University, URL</a> -Thesis First Class Honors<br>LS Cubes: Design, Development and Application of an Interactive Platform for Neuropsychological rehabilitation after moderate and severe childhood TBI   | Barcelona, Spain |

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| 2022 | <b>Primary School Students Programming with Real-Time Environmental Sensor Data</b><br><a href="#">Australasian Computing Education Conference (ACE 2022)</a><br>Hussel Suriyaarachchi, Paul Denny, Juan Pablo Forero, Chamod Weerasinghe, Suranga Nanayakkara   |  |
| 2021 | <b>OM: A Comprehensive Tool to Elicit Subjective Vibrotactile Expressions Associated with Contextualised Meaning</b><br><a href="#">Conference on Mobile Human-Computer Interaction (Mobile HCI 2021)</a><br>Juan Pablo Forero, Hussel Suriyaarachchi, Alaeddin Nassani, Haimo Zhang and Suranga Nanayakkara         |  |
| 2020 | <b>Touch me Gently: Recreating the Perception of Touch using a Shape-Memory Alloy Matrix</b><br><a href="#">Conference on Human Factors in Computing Systems Proceedings (CHI 2020)</a><br>Sachith Muthukumarana, Don Samitha Elvitigala, Juan Pablo Forero, Denys Matthies and Suranga Nanayakkara                  |  |
| 2019 | <b>M-Hair: Creating Novel Tactile Feedback by Augmenting the Body Hair to Respond to Magnetic Field</b><br><a href="#">32nd Annual ACM Symposium on User Interface Software and Technology (UIST 2019)</a><br>Roger Boldu, Sambhav Jain, Juan Pablo Forero, Haimo Zhang and Suranga Nanayakkara                      |  |
| 2017 | <b>InSight: A Systematic Approach to Create Dynamic Human-Controller-Interaction</b><br><a href="#">8th Augmented Human International Conference</a><br>Roger Boldu, Haimo Zhang, Juan Pablo Forero, Sachith Muthukumarana and Suranga Nanayakkara   |  |
| 2016 | <b>Muss-bits: Ad-Hoc Access to Musical Sound for Deaf Individuals</b><br><a href="#">18th International SIGACCESS Conference on Computers and Accessibility</a><br>Benjamin Petry, Thavishi Illandara, Juan Pablo Forero, Suranga Nanayakkara  |  |
| 2015 | <b>postBits: Using Contextual Locations for Embedding Cloud Information In the Home</b><br><a href="#">Personal and Ubiquitous Computing Journal</a><br>Forero, J. P., Fernando, P., Sridhar, P., Withana, A., Nanayakkara, S. C., Steimle, J. and Maes, P   |  |
| 2015 | <b>BWard: Optical Approach for Reliable in-situ Early Blood Leakage Detection at Catheter Extraction Points</b><br><a href="#">7th IEEE International Conference on Robotics, Automatics and Mechatronics</a><br>Juan Pablo Forero, Tsz Him Ching, Chuyi Wu, Chang Yin Chionh, Suranga Nanayakkara and Shaohui Foong |  |
| 2015 | <b>footNote: Designing a Cost Effective Plantar Pressure Monitoring System for Diabetic Foot Ulcer Prevention</b><br><a href="#">6th Augmented Human International Conference</a><br>Kin Fuai Yong, Juan Pablo Forero, Shaohui Foong, and Suranga Nanayakkara  |  |

## PATENTS

|      |  |
|------|--|
| 2019 | <b>Object Detection and Motion Identification Using Electromagnetic Radiation</b><br>US Patent 10,491,736 19/11/19 |
| 2017 | <b>On-site device for detecting presence of a liquid</b><br>WO2017010942A1 01/19/17                                |
| 2016 | <b>Muss-bits</b><br>Provisional Submission 10201610020P 29/11/16   |

## AWARDS

|      |  |              |
|------|--|--------------|
| 2020 | <b>Kiwrrious</b> - Social Category Award<br>100K Velocity Challenge<br>Kiwrrious empowers students to engage in scientific inquiries in and out of school  | Auckland, NZ |
| 2020 | <b>Maia</b><br>Best Design Awards - Bronze in User Experience<br>A service that uses the latest in artificial intelligence to help mental health clinicians provide better care for their patients | Auckland, NZ |
| 2019 | <b>The Linked Horizons Foundation</b> - Qualifiers<br>100K Velocity Challenge<br>Linked Horizons aims to provide children with equal access to education and learning opportunities worldwide      | Auckland, NZ |
| 2019 | <b>MussBits</b><br>Best Design Awards - Gold in Public Good Award<br>A wearable device designed to support music listening and music making for deaf individuals                                   | Auckland, NZ |

## SKILLS

|                 |  |
|-----------------|--|
| Software        |  |
| Programming     | C, C++, Java (Android), Python, Assembly, HDL, LabView |
| Frameworks      | Matlab, Scikit-learn, Pytorch, Pandas                  |
| Hardware        |  |
| Electronics     | Altium Designer, LTspice, Cadence OrCAD                |
| Other           |  |
| Graphic & Video | Adobe Photoshop, Adobe Illustrator, Adobe Premiere Pro |
| Languages       | Spanish, Catalan, English                              |