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Jessica de Souza

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Objective

I am an Electrical and Computer Science researcher who works on novel sensing techniques and data analysis methods to address longstanding problems in healthcare and smart home systems. I also design and create hardware prototypes and implement signal processing techniques on embedded and mobile-phone platforms. My ambition is to develop and study sensing techniques with a focus on mental and chronic diseases, which are impacting millions of lives worldwide in the 21st century. I strive to improve healthcare through predictive and preventive medicine that is informed by my research.

Education

Bachelor of Science 2013 – 2019	Telecommunications Engineering, Federal Institute of Santa Catarina Advisor: Dr. Roberto de Matos
Exchange student 2014 – 2015	Electrical and Computer Engineering, University of Nevada, Reno Advisor: Dr. Yantao Shen
High school 2009 – 2013	Vocational High School (Telecommunication technician), Federal Institute of Santa Catarina

Work Experience

Jul 2019 - Present	Software Development Analyst, R&D Department AQTech – Power Prognostics. Mentors: Tiago Kaoru Matsuo. *I am currently working on the planning and development level of a data acquisition system that uses Smartmesh® technology, focused on preventive maintenance of energy power plants.*
Mar 2019 - Jul 2019	Technical Operations Undergraduate Intern Imex Medical Group. Mentors: Charles Gesser Fernandes.

Worked with installation, debugging and maintenance of medical imaging devices: ultrasound, digital x-ray detector, mammography, and exam visualization software (CT).

May 2018 - Aug 2018 — Microsoft Research Undergraduate Intern
Clinical Sensing and Analytics Group.
Mentors: Dr. Sidhant Gupta and Dr. Jonathan Lester.
Created a novel wearable pulse sensing interface to improve cardiovascular health monitoring. Evaluated and compared it to existing wearable interfaces in a controlled study.

Jun 2017 - Dec 2017 — Research student
Federal Institute of Santa Catarina.
Mentors: Dr. Elen M. Lobato and Ramon M. Martins.
Analyzed heart activities from an available database involving myocardial infarction, arrhythmias and healthy subjects to predict abnormalities in cardiovascular exams.

Jun 2016 - Dec 2016 — Research student
Federal Institute of Santa Catarina.
Mentor: Dr. Jorge H. Busatto Casagrande
Developed a novel sensor for electrical and hydraulic monitoring in residential electric showers to reduce water and energy consumption.

Feb 2016 - Jun 2016 — Extension fellow
Federal Institute of Santa Catarina.
Mentor: Dr. Pedro Armando da Silva Junior
Taught middle and high school students the concepts of embedded systems and basic robotics. Worked towards increasing the number of students in the STEM field.

Jun 2014 - Jul 2015 — Research student
University of Nevada, Reno
Mentor: Dr. Yantao Shen
Worked on the "E-Braille" project, collecting bioimpedance from the fingertip to find correlations between applied force and bioimpedance, in order of the device be comfortable to the user.

Awards and Honors

2017 — Second place at the IFSC Innovative Ideas Contest, Brazil
10,000.00 BRL grant

2017 — Best extended abstract at VIII Computer on the Beach
UNIVALI, Brazil

2015	Outstanding First Year Student in Chinese University of Nevada, Reno, USA
2015	Outstanding Academic Achievement for GPA University of Nevada, Reno, USA

Grants

Mar 2014 - Jul 2015	Scholarship Holder of CAPES (Improvement Coordination of Higher Education Personnel), in the Brazil Scientific Mobility Program (BSMP).

Conference Organization

Coorganizer	Organizing committee, ChipCon 2018 Connecting Ideas. Florianopolis, Brazil.
Coorganizer	Organizing committee, ChipCon 2017 Connecting Ideas. Florianopolis, Brazil.
Coorganizer	Organizing committee, RoadSec 2017 Hacking, security and technology. Sao Jose, Brazil.
Coorganizer	Organizing committee, 2016 IEEE Latin American Symposium on Circuits and Systems. Florianopolis, Brazil.

Full Paper Publications

1. DOMINGOS, A. S.; **SOUZA, J.**; GUIMARÃES, S. P.; PACHECO, L. A.; SIVA JUNIOR, P. A.; LOBATO, E. M. "Disseminação da ciência e da tecnologia através de experiências didáticas". In *Proceedings of the Seminário de Ensino, Pesquisa, Extensão e Inovação do IFSC.* pp. 282-285. *SEPEI*, 2016.
2. Henrique, Clayrton M., Alline S. Domingos, and **Jessica de Souza**. "Utilização do Kit Demonstração Óptica com Laser". In *Proceedings of the 34º Seminário de Extensão Universitária da Região Sul*. pp. 624-629. SEURS, 2016.

Abstract Publications

1. **de Souza, Jessica**, Daniel Trevisan Tatsch, and Jorge Henrique Busatto Casagrande. "Sistema de Monitoração Inteligente Para Chuveiro Residencial Utilizando" Internet Das Coisas"". In *Proceeding of the Computer on the Beach*. pp. 620-622. COTB, 2017.
2. **de Souza, Jessica** and Yantao Shen. Bio-impedance for electronic braille: a preliminary investigation on the behavior of the fingertip tissue. Abstract. In *Proceedings of the XXV Brazilian Congress on Biomedical Engineering.* pp. 2285-2285. CBEB, 2016.

References

Sidhant Gupta, Ph.D.	sidhant@microsoft.com
Jonathan Lester, Ph.D.	jonathan.lester@microsoft.com
Roberto de Matos, Ph.D.	roberto.matos@ifsc.edu.br
Roberto Wanderley da Nóbrega, Ph.D.	roberto.nobrega@ifsc.edu.br

Skills

Programming Languages: MATLAB, C/C++, C#, Python, Java, MySQL, VLSI.
Fabrication and Design: Soldering, laser-cutter, Arduino, circuit and device prototyping.
Tools: Proteus, Multisim, AVR, Visio, GIT, AutoCAD, Visual Studio, LaTeX, Android Studio.

Languages

English	Proficient	French	Elementary
Portuguese	Native	Mandarin	Elementary
Spanish	Intermediate		