# Andre Von Zuben

**Graduate research assistant**
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## SUMMARY

Accomplished, enthusiastic consultant and entrepreneur with over ten years of research and development experience in software for consumer and industrial applications. Reputation for rapidly addressing technical challenges with creative solutions. Looking to join an organization that values leadership, performance, teamwork, and results.

## EDUCATION

**UCF – University of Central Florida**                                                              Orlando, FL
PhD, Mechanical Engineering                                                          2020 – expected Fall 2023
- Research: Uncertainty quantification and calibration of computer models with artificial neural networks
- Research: Image to image domain translation and weathering using generative adversarial neural networks
- Research: Cardiac magnetic resonance image segmentation for 3D surface generation

**UNESP – Universidade Estadual Paulista**                                              Rio Claro, SP, Brazil
B.Sc. in Computer Science                                                                       2009 – 2013
- Best academic performance in the Bachelor in Computer Science degree for the "2013 class"
- Undergraduate Research: Dynamic adaptation of objects with AspectJ
- Undergraduate Research: Development of a NIOS II Processor Simulator with Coupled GDB Server for Remote Debugging

## PROFESSIONAL EXPERIENCE

**University of Central Florida**                                                                    Orlando, FL
Graduate research assistant                                                                      Jan 2020 – now
Working in the Probabilistic Mechanics Laboratory, focused on merging physics-based domain knowledge, machine learning, and multidisciplinary optimization. Currently working on uncertainty quantification and calibration of computer models with artificial neural networks, on image to image domain translation and weathering using generative adversarial neural networks, and on cardiac magnetic resonance image segmentation.

**Skylar AI Subtitling and Automatic Translation**                                    Piracicaba, SP, Brazil
Remote consultant                                                                         Feb 2020 – Dec 2020
Responsible for software design, research, development, and consulting for the base transcription and translation library, USub, Closed Captions, and Live projects.
Key projects:
- Skylar Concatenate: created an algorithm to concatenate the speech recognition model outputs, improving the transcription accuracy.
- Skylar Closed Captions: created the first Brazilian and one of the first in the world solution to subtitle Zoom meetings and YouTube lives automatically.
- Skylar Live: restructured the project architecture to handle live events on a custom platform with thousands of simultaneous viewers.

**Azure Capitals**                                                                              Limeira, SP, Brazil
Chief technology officer and Owner                                                         Jan 2016 – Dec 2019
Software research and development contractor for:
- **GE Global Research** at Niskayuna, NY: software design, research, development, and documentation for the Usage Based Lifing project

- **Baker Hughes, a GE Company** at San Ramon, CA: software design, research, development, and documentation for the AI Factory project

Key projects:
- Dynamic Bayesian Network creation: created a page on Usage Based Lifing project to create dynamics Bayesian networks and schedule orchestrated runs to copy the files, update the data sources, run and update the model, using Apache Airflow.
- User-defined model registration: add the capability to users to register their own containerized model or service model to AI Factory and use them later.
- AI Factory Task Service: rewrite all the former task service to create scalable microservices, allowing it to scale up to thousands of instances, providing high performance. The microservices were designed to create, watch, update status, recovery and delete jobs on Kubernetes (GCP, AWS, and Azure) and on Docker environments.

**New Soft Intelligence**                                                                                  Limeira, SP, Brazil
Technical support analyst                                                                              Sep 2014 – Jan 2016
Responsible for design and development of customizations, bug fixes, and technical support.
Key projects:
- eComex system: responsible for exportation, importation, and SAP integrations technical support.
- eComex / SAP custom integration fix, implementation, and maintenance on several customers.
- eComex / Oracle R12 custom integration fix, and implementation.
- Member of the team who created a new knowledge base system for the company.

**Alfa Networks**                                                                                              Limeira, SP, Brazil
Software developer                                                                                        Aug 2009 – Sep 2014
Responsible for software design and development for commerce, industry, multilevel marketing companies, e-commerce, and surveys platforms.
Key projects:
- Electronic invoice: implemented invoice XML generation, signing, and transmission to the Brazilian's government services.
- POS: created a responsive point of sale web system to attend snack bars and cafes.
- Survey platform: designed a web platform where Human Resources companies could create and apply their own surveys to evaluate their customer's workers.

**Intesis Consultoria Integrada**                                                                    Limeira, SP, Brazil
Website developer                                                                                        Mar 2008 – Aug 2009
Responsible for e-commerce, content management systems, and website development.
Key projects:
- CMS: Created a centralized content management system where people could manage the content from all websites hosted by the company.

## PUBLICATIONS
- A. V. Zuben, K. Heckman, F. A. C. Viana, and L. Perotti (Submitted), "A multistep machine learning approach for left ventricle short axis MR image segmentation and surface generation," International Conference on Functional Imaging and Modeling of the Heart, Virtual Event, June-July, 2021.
- A. V. Zuben, R. G. Nascimento, and F. A. C. Viana, "Visualizing corrosion in automobiles using generative adversarial networks," Proceedings of the Annual Conference of the PHM Society, Vol. 12 (1), Virtual Event, November 9-13, 2020 (DOI: 10.36001/phmconf.2020.v12i1.1148).
- Y. A. Yucesan, A. V. Zuben, F. A. C. Viana, and J. Mahfoud, "Estimating parameters and discrepancy of computer models with graphs and neural networks," AIAA Aviation Forum, Virtual Event, June 15-19, 2020, AIAA 2020-3123 (DOI: 10.2514/6.2020-3123).

- A. V. Zuben and F. J. Affonso, "Estudo sobre a Reconfiguração de Software em Tempo de Execução utilizando AspectJ," XXIV Congresso de Iniciação Científica da UNESP, 2012, Rio Claro, SP, Brazil.
- A. V. Zuben and F. J. Affonso, "Adaptação dinâmica de componentes utilizando aspectos," 14º Congresso de Iniciação Científica do UNICEP, 2011, São Carlos, SP, Brazil.

## RELEVANT SKILLS

- Programming Languages: Python, Java, PL/SQL, PHP, JavaScript, C, etc.
- Databases: Oracle, PostgreSQL, MySQL, MongoDB, ArangoDB, etc.
- Docker, Kubernetes, and Google Cloud Platform
- Fluent in Portuguese and English / Intermediary Spanish

## HONORS AND AWARDS

- Second place at Undergraduate Research Showcase of the Institute of Geosciences and Exact Sciences at the Universidade Estadual Paulista "Júlio de Mesquita Filho" – UNESP (2013) – Development of a NIOS II Processor Simulator with Coupled GDB Server for Remote Debugging