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# MÁRCIO PADUAN DONADIO

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## Computer Engineer

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### Summary

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Work with industry equipment automation for beamlines and accelerator in SLAC and the Brazilian synchrotron. Participated in international work to improve technical skills and to get useful contacts to the company. Developed important skills in software, mainly EPICS, CS-Studio, C, C++, Python, LabVIEW (including cRIO FPGA), Delphi and macro programming using SPEC. Some of the equipment that was automated are mass controllers, temperature controllers, motion controllers, CCD, and laser controllers.

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### Work experience

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| Jan 2017 - Present  | <p>Senior Control Systems Engineer</p> <p><i>SLAC</i></p> <p>Developed systems for beamline and accelerator using EPICS, C, and C++. Examples are the new Long Pulse Laser for the MEC (materials under extreme conditions) beamline and the migration of the accelerator bunch length and bunch charge measurement systems from VME to the ATCA + Linux RT architecture.</p> <p>Researched new hardware and tools that could be useful to SLAC, writing result reports and doing presentations about the research.</p> <p>Collaborated with the EPICS community, improving software or proposing changes that could benefit SLAC and other labs around the world.</p> <p>Collaborated with departments around SLAC, solving challenging problems related to control systems.</p>   |
| Dec 2006 - Dec 2016 | <p>Computer Engineer</p> <p><i>LNLS - Brazilian Synchrotron</i></p> <p>Improved many beamlines systems, bringing speed to experiments, gains on beamline usability control, migration of legacy system to EPICS and integration of new equipment to the current system. Description of skills and responsibilities are the following:</p> <ul style="list-style-type: none"><li>• Researched for industrial equipment to develop software and suggested hardware solutions to automate them with a computer, microcontrolled system or FPGA.</li><li>• Developed software using EPICS, C, Python, LabVIEW and Delphi to automate the beamlines.</li><li>• Developed knowledge in stepper motor, robotic arm, CCD detector, ionization chamber, photodiode using current to voltage transformation, digital inputs, and outputs, NI cRIO with Ethernet or Ethercat and temperature controller.</li><li>• Maintained and improved personal and equipment protection system using Pepperl-Fuchs PLC and step 5 language. Built the entire protection system of two beamlines from scratch.</li></ul> |
| Oct 2007 - Jan 2009 | <p>Professor</p> <p><i>IBTA</i></p> <p>This work was done on Saturdays. Taught software quality disciplines in apostgraduation course.</p>  |
| Jul 2006 - Nov 2006 | <p>System Analyst</p> <p><i>Siemens Building Technologies</i></p> <p>Built the complete specification of a global web system used to share information between Siemens and its sales and technical partners around the world.</p>   |
| Oct 2000 - Jun 2006 | <p>Software Developer and Quality Coordinator</p> <p><i>Movile (formerly Compera)</i></p>   |

Developed most of the software development system, adjusting company processes to CMMI and MPS.BR models. Provided internal consultancy to achieve MPS.BR level F certification, compatible to CMMI level 2. Other works that were done:

- Built the complete specification of software systems to companies like:
  - Ultragaz, a big Brazilian company in the gas area
  - Siemens Building Technologies
  - Camargo Corrêa, one of the largest private business conglomerates in Brazil
- Trained all company staff in the developed processes.
- Researched for management tools and process models to be used by the company.
- Built desktop systems with Delphi and web systems with ASP and VB, always using Microsoft SQL Server as the relational database management system.

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## Education

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Mar 1995 - Sep 2000

Bachelor's degree in Computer Engineering

*Unicamp - Universidade Estadual de Campinas*

Computer engineering course in Unicamp is considered the highest level course in Brazil for this specific area.