Ademar Alexandre Brehmer Rohregger

MBA & BEng Electrical Electronic Engineering

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PROFESSIONAL EXPERIENCE

- Software / Controls Engineer (June 2021 – Current Job / Martinrea International Inc. – Tillsonburg Division – Tillsonburg ON / Canada

    - AI solutions developer – Machine learning, computer vision and statistical process control in streaming production line with emphasis in NVIDIA Jetson devices;
    - Continuous Improvement in production lines using: Bosch / WTC Welding Controllers, Fanuc Robots, Rockwell Allen Bradley ControlLogix / CompactLogix PLC family and PanelView HMIs, Atlas Copco Torque Gun, Atlas / Coherix Adhesive system, Mapvision, iRvision, IFM, Balluff, Cognex and Keyence Vision systems;
    - Development and improvement of Ignition Vision (Inductive Automation) Applications, MS-SQL management and OPC-Tags from AB 5000 and 500 family;
    - Create, install and maintenance of Ignition VISION and Perspective applications in Mobile, PC computer and Raspberry Pi platforms;
    - Develop electronic based solutions integrating to PLC systems in production line;
    - Design, develop and conduct studies for improving cycle time and minimize downtime for WL production line and LA / LX family;
    - Develop PowerBI, Automate and Apps solutions using Microsoft Power Platform connected to MS SQL data, APIs and integration to PLC / Ignition Scada.

- Welding Robotic Machine / Welding Quality Control / Manufacturing Team Member (October 2020 – June 2021) / Toyota Boshoku – Woodstock ON / Canada

    - Welding Quality Control for Rear Back Seats RAV4 Cambridge Line;
    - Welding Robotic (Yaskawa / AB) Machine Operator for Rear Back Seats RAV4 Cambridge Line;
    - Manufacturing Team Member in Welding Line (Safety item) for Rear Back Seats RAV5 Cambridge Line;
    - 6 Kaizen Prizes: Fast and Simple Improvements in production line.

- Volunteer / Automation Engineer / Electronic Engineer – (March 2020 – June 2020) / Santa Catarina Federal University (UFSC) – Florianópolis / Brazil

- Lead project prototype electronic and software (NI Labview) tests for electromechanical ventilator for COVID19 support purposes;
- Design and adjusts in analog electronic circuits for signal conditioning, power electronics for electro pneumatic valves drive, and pressure sensor acquisition;
- Consulting about product design for ventilator project product for COVID19 purposes.

- Technical Director / Project Manager / Electrical Engineer / Technical Team Leader / Operation and Maintenance Manager – (December 2011 – November 2019) / GeoEnergy / Enersys Engineering – Florianópolis / Brazil

  - Plan and design plant layouts and facilities;
  - Study new machinery and facilities and recommend or select efficient combinations;
  - Oversaw technical design and technical procurement of industry and power plant facilities;
  - Lead project management for concurrent projects valued at $30M+ each, ensuring timely delivery of executive design projects for renewable energy plants;
  - Manage all aspects of project timelines, budget development, quality assurance, and objective setting, overseeing resource management to achieve business results within strict time, budget, and resource constraints;
  - Conduct risk analysis to identify, mitigate, and resolve project risks and prevent bottlenecks;
  - Executed design engineering to manage and deliver electrical installations, grounding systems, SPD, raceways, pipelines, hydraulic gates, protection relaying studies of electrical substation, small hydropower plants, wind farms, and photovoltaic systems;
  - Develop automatic bill of materials and pipe package through superior project management skills and strong technical acumen;
  - Delivered all designs within strict time constraints and according to technical specifications;
  - Tools Utilized: Microstation Powerdraft with ad-ons: 3D raceways, Autodesk AutoCAD 2D, ArcGis Platform, Microsoft Office (Excel Visual Basic), PowerBI, Visio, MS Project, mySAP-ERP, quality tools (PPM, EVMS, Agile, Scrum and Six Sigma Principles), PVSyst, CEPEL Toolkit, ATP-EMTP, SKM Power Utilities, Aspen Oneliner, Dialux, Scheider Design Tools, Lumine, Rockwell Studio 5000, Factory Talk Studio.

- Electronic Developer / Embedded Programmer / Field Engineer – (September 2005 – November 2011) / Automatronic Engineering - Jaragua do Sul / Brazil

  - Oversaw IED design and embedded system development within established deadlines;

- Directed project management efforts for design engineering projects, overseeing all aspects of project planning, project milestones, and project documentation;
- Managed cross-functional teams during daily operations specializing in electrical installation services, overseeing staff training and team building to establish top-performing teams;
- Led all aspects of networking set-up, maintenance, and administration by leveraging a strong technical acumen with various networking programs;
- Maximized quality assurance through use of cutting-edge quality tools and fishbone charts;
- Tools Utilized: PLC Programming (Siemens, ABB, Rockwell, & GE), CanBus, FieldBus, DNP 3.0, IEC 60850, PDCA, Cause-Effect Diagram (Fishbone Chart) and other automation tools.

- Electronic Developer / Embedded Programmer / Field Engineer – (January 1998 – August 2005) / ERZEG & Grameyer Electronic Equipments – Schroeder / Brazil

  - Managed embedded microcontroller system design and programming, overseeing documentation, testing, integration, and debugging of software in various languages;
  - Applied significant expertise in hardware design, development, mixed signal electronic devices, and power electronics circuits;
  - Oversaw electrical HV and LV panels and inner control equipment to include all aspects of development, commissioning, start-up, and maintenance to ensure continued efficiency;
  - Conducted all aspects of ABNT, IEEE, IEC, UL, VDE, and CSA compliance testing;
  - Tools Utilized: Microstation Path Simulation (Matlab, Matematica, Mathcad, Vissim, Origin, & Scilab), CAE Tools (PVSyst, Labview, Elipse, Electronics Workbench, Psipice, & Orcad), Microcontrollers (C & Assembly), PC (Javascript, Python, & Delphi) and FreeBSD network.

- Electronic Techinician / IT Manager / Support Analyst – (1989 – 1996) / Joinville City Hall / Tecnocenter / Alphatec Engineering - Joinville / Brazil
  - Electronic maintenance in digital boards: IBM 400 Terminal, Apple II +, Macintoch, Z80 computers family (CP500, TK family and others), IBM PC/XT/AT/386/486 and Pentium and compatibles;
  - Electronic maintenance in power electronics and analog devices: CGA / Hercules / EGA / VGA / SVGA monitors, Switching and analog power supply, Matricial printers (HP Deskjet, EPSON family, Elebra family (Emilia, Diana,etc) and Rima family) and laser printers;
  - Electronic maintenance in floppy disk devices, magnet tape devices and punched card machines;
  - Programming in IBM-PC Assembly, Turbo C, Cobol, Fortran and Clipper language.

- Novell Netware 4.x /5.x, Xenix networks setup and maintenance (more than 200 devices per network);
- Computer Network Architecture definition and deployment.

Academic Experience

Years of study: 2011-2013

- Getulio Vargas Foundation (FGV)
  - Master in Business Administration (MBA) - electric sector executive management
  - Description:
    Main subjects: Financial calculus, Regulation Standards, energy tariff calculation, project management, renewable power generation, energy trading, environmental management, costs and price management, corporate governance;
  - Undergraduate thesis: World Power Generation Incentives.

Years of study: 2001-2002

- Universidade Federal de Santa Catarina (UFSC)
  - Master in Science (MSc), Control & Electrical Engineering
  - Description:
    Main subjects: Linear Systems, RTOS in embedded systems, Artificial Intelligence (neural networks, specialist systems, fuzzy logic, genetic algorithm and distributed computing), PID tunning, Predictive Control, Non-linear systems (introduction), Space State Control, Adaptive Control, Optimal Load Flow, AVR and Governors for Power Generation, Power Systems Stabilizer, Transmission Lines, Power Systems Dynamic Control, Power Systems Static Stability.
  - Undergraduate thesis: Adaptive AVR for Synchronous Generators

Years if study:1995-2000

- Universidade do Estado de Santa Catarina (UDESC)
  - Bachelor of Engineering (BEng), Electrical / Electronic Engineering
  - Description:
    Main subjects: Integral and Differential Calculus, Linear Algebra, Advanced Physics, Electric Circuits, Electronic Circuits (inclusive Op Amps), Digital and microprocessors logic, telecommunication, Linear Systems, Linear Control Systems, Power Electronics, Power Generation, Power Systems, Transmission

Lines, Electromechanics Devices and Circuits, Electromagnetism, Industrial Automation, Industrial Informatics, Economic Fundamentals and Scientific Method.
    - Automation Lab Scientific Initiation Scholarship (1996-1998)
    - Undergraduate thesis: Power Systems Stabilizer Design and deploy

Scientific Articles

- April/2014 - "O Setor Elétrico" national magazine - Article (Pages 76-85)
    - Aerogenerator Electrical Grounding
- October/2013 - XXII SNPTEE - National Seminar on Electricity Production and Transmission - Brasilia/DF
    - Aerogenerator Electrical Grounding Standards and its influence on the insulation coordination
- August/1999 - XI Scientific Initiation Meeting - UFRGS - Porto Alegre/PR
    - Development of software for integrating a DSP platform with the matlab-simulink environment
- July/1999 - "IV Scientific and Technological Initiation Seminar - CEFET - Curitiba/PR
    - Stochastic Method for Identifying Systems - PRBS with Cross-Correlation equation
- June/1999 - "XIV Regional Congress of Scientific and Technological Initiation in Engineering - CRICTE - UFSM - Santa Maria/RS
    - Using Labtech Control Pro in Control Theory Teaching

Brazilian Professional Engineer

- Member of Conselho Regional de Engenharia e Arquitetura (CREA-SC / CONFEA) - Brazil Engineering Association e Regulation

    - Work Collection:
        - 30+ Small Hydro Powerplants
        - Industrial Automation
        - Electrical Design
        - Operation & Maintenance