Felipe Ximenes | Curriculum Vitae

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A software engineer passionate in building challenging projects that shape the future. Experienced with development of artificial intelligence algorithms and bring-up embedded systems.

Technical skills

- **Certification:**

  - **C Programming Language Certified Associate Certification (CLA) - C++ Institute**
    Certificate
  - **C++ Certified Associate Programmer Certification (CPA) - C++ Institute**
    Certificate

- **Programming Skills:**

  - **Embedded Linux**
    Buildroot, Yocto project, Device drivers
  - **RTOS**
    Mbed, Zephyr, FreeRTOS
  - **Machine learning - Python**
    Numpy, Pandas, Matplotlib, Scikit-learn, Anaconda, Virtualenv, Jupyter notebook
  - **Computer Vision**
    OpenCV
  - **Deep Learning framework**
    Tensorflow, Keras, Pytorch
  - **Docker**
    Dockerfile, docker compose

- **General Skills:**

  - Familiarity with bootloader, Linux kernel, and device driver development
  - Experience with Yocto and bit-bake for embedded Linux generation
  - Embedded communication buses and protocols (UART, SPI, I2C, CAN etc)
  - Experience with Real-time Operating System (RTOS)
  - Develops simulations of AI applications (Gazebo, RViz, MoveIt, CARLA, Airsim)
  - Control Algorithms development (PI, PD, PID)
  - Implementing algorithms in AI – State/Parameter Estimation, sensor fusion, Optimal trajectory and SLAM
  - Knowledge in machine learning algorithms (Linear Regression, Decision Trees, Random Forest, etc)
  - Deep learing architectures (Convolutional Neural Network, Recurrent Neural Network, Generative Adversarial Networks)
  - Computer vision algorithms implementation (Object detection, Semantic segmentation, Target tracking, Depth estimation)

Education

Academic Qualifications

- **Master - Theme: Autonomous vehicles navigation using computer vision**
  CEFET
- **Control and Automation Engineering**
  CEFET

Courses Qualifications

- **Flying Car and Autonomous Flight Engineer Nanodegree - Udacity**
  Certificate
- **Robotic Software Engineer Nanodegree - Udacity**
  Certificate
- **Deep Learning Foundation Nanodegree - Udacity**
  Certificate
- **Yocto project**
  Embedded Labworks
- **Linux device drivers**
  Embedded Labworks
- **Embedded Linux**
  Embedded Labworks

Previous Employment

- **Chemtech - Siemens Business**
  Control and Automation Engineer

  When I joined the company, I worked initially in the Instrumentation and Control team, acting in the elaboration of control logic and instruments specification for refineries and platforms. Then I was invited to join the P&D department where we developed a system for operating an underwater valve through a hydroacoustic modem called SHAR. After that, I joined the Offshore Instrumentation team to work in RIMS (Riser Monitoring System) and POS project for Petrobras FPSO.

Languages

- **English - Advanced**

- **Deutsch - Intermediate (B1)**
  ICG - Instituto Cultural Germânico