Personal information

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Job experience

Up to this date I have accumulated more than 4 and a half years of experience in **Physical Design** and **CAD flow/automation development**. Mainly working on **coherent-communications ASICs** destined to Long Haul/Metro and between/inside Data Centers communications.

Current position

Sr. **Physical Design Engineer** at Marvell Corporation since 4/2021

> The recent change of companies is due to a merger between them both.

Responsibilities

- Block-level design, from: RTL to: GDS for several multi million cells block instances
- Top-level design
- STA (Static Time Analysis)
- Low-power design
- PV (Physical Verification)
- CAD / Workflow development

Previous positions

Sr. **Physical Design Engineer** at Inphi Corporation from: 4/2018 to: 4/2021

Jr. **Physical Design Engineer** at Inphi Corporation from: 3/2017 to: 4/2018

Education

University

UTN - FRVM

- **Bachelor degree** (completed) in Electrical Engineering by the UTN - FRVM (Universidad Tecnológica Nacional - Facultad Regional Villa María). Villa María, Córdoba, Argentina.
- **Master degree** (thesis under development) in Electrical Engineering by the UTN - FRVM.

The career path focuses on:

- ASIC manufacturing
- Analog and Digital IC design
- MEMS
- DFT / Verification
- Embedded systems / FPGA

Associated activities

- **GECaM** (Grupo de Estudio en Calidad en Mecatrónica, spanish for: Group of Study in Quality in Mechatronics): Research and development group for Mechanical and Electrical mixed system.

TUI

International academic exchange program. Collaboration between the UTN university and the German Academic Exchange Service (DAAD).

The exchange program was developed on the summer semester (Sommerkurs) in the TUI (Technische Universität Ilmenau).

The main objective of the scholarship was to take a usual semester of the career and to collaborate on a research program already in place on the mechanical and electrical faculty of the university.

Topic of the research project collaboration:

- **Low-Noise Amplifier development**: Collaboration in the development of a Low-Noise Amplifier for the 806 MHz band (band 20). Original title: *“Projekt MUSIK: 806 MHz (band 20) LNA entwurf”*

Some of the subjects I took on the semester:

- Nano-technology
- CMOS development

Associated activities All associations made while on the exchange program were focused on interacting with people to learn and embrace the university and the German cultures:

- **Students Café volunteer**: Worked as a volunteer on the "bc-Studentencafé" on the TUI Campus.
- **Rugby**: Played Rugby with the TUI Rugby team.

Scholarships

CIN - Becas de Estímulo a las Vocaciones Científicas 2015

Implementation of Oscillation Based Test (OBT) in modern reconfigurable analog circuits, a technique usually oriented towards embedded analog systems. Particularly working on re-configurable PSOC platforms from Cypress in development boards provided by the manufacturer.

The validation of the proposed strategy was also developed by a fault-injection campaign on the implemented model.

Main topics:

- OBT
- Analog design
- Continuos time and mixed-signal implementations

> Scholarship at the UTN - FRVM (Villa María, Córdoba, Argentina).
>
> From: 9/2015 to: 8/2016 (1 year).

GECaM (Grupo de Estudio en Calidad en Mecatrónica)

Possible applications for the FFT (Fast Fourier Transform) in preemptive analysis of vibrating systems.

Main topics:

- Mathematical methods needed to implement the FFT calculation
- Design of the software side for an already existent vibrations measuring device
- Analysis of the collected information to try to model fault behavior

> Scholarship at the UTN - FRVM (Villa María, Córdoba, Argentina).
>
> From: 8/2012 to: 7/2014 (2 years).

Main skills / Interests

Electronic Engineering

- PD
- LEC
- STA
- PV
- Low-power
- CAD
- Spice
- ASIC
- SoC
- FPGA

Programming Languages / Scripting

- System Verilog
- Tcl
- Python
- Bash
- C

Learning

- Go
- Fish
- Lua

Project management

- YouTrack
- Git

OS

- Linux

- Windows

Miscellaneous

- AI
- R&D
- Team-work
- Bash
- Tmux

Accomplishments

Courses

Digital Design

- **Fundación Fulgor (2018)**: “Advanced Digital Design course”. **Original title**: *“Curso en Diseño Digital Avanzado (DDA)”*.

Digital Verification

- **Udemy (2021)**: “SoC Verification using System Verilog”.

Analog Design

- **Fundación Fulgor (2018)**: “IC Analog Design”. **Original title**: *“Diseño Analógico en Circuitos Integrados”*.
- **EAMTA**: “Advanced Analog Design 2: ‘Synopsys Custom Designer’ ”.

Micro-Controllers

- **UTN - FRVM**: “Basic C PIC programming”. **Original title**: *“Programación básica de PIC C”*.

Python

- **Kaggle (2020)**: “Python”. Learn the most important language for data science. *By Colin Morris, Data Scientist*.

Python libraries

Pandas

- **Kaggle (2021)**: “Pandas”. Solve short hands-on challenges to perfect your data manipulation skills. *By Aleksey Bilogur, Data Analyst.*

`scikit-learn`

- **Kaggle (2021)**: “Intro to Machine Learning”. Learn the core ideas in machine learning, and build your first models. *By Dan Becker, Data Scientist.*

Web & DB

- **Udemy (2020)**: “Python sin fronteras: HTML, CSS, Flask y MySQL”. **Original Description**: Conviértete en un experto en Python con este curso que te enseña a programar desde cero. Con estas tecnologías podrás construir aplicaciones en el frontend y también en el backend. *By Nicolas Schurmann, Software Engineer.*

C

- **Udemy (2021)**: “C: Programming the Basics”. **Original Description**: Start with low-level C programming. *By Frank Anemaet, Software Engineering.*

Publications

- **CyTAL 2014**: “Ball bearings fault detection using FFT”. **Original title**: *“Detección de fallas en rodamientos usando FFT”*.

Projects

- “Time-management and metrics software for bus-drivers performance analysis”. **Original title**: *“Software de gestión de tiempo y estadísticas para el análisis del desempeño de choferes de colectivos”*

Languages

●●●●●● Spanish: Native

●●●●●○ English: Professional competence

●●●●○○ German: B2.2

Extracurricular

Volunteer experience

TUI

- **Students Café volunteer**: Worked as a volunteer on the “bc-Studentencafé” on the TUI (Technische Universität Ilmenau) Campus.

> From: 9/2014 to: 2/2015 (6 months)

Musical instruments

- Several years of classical-guitar study.
- Starting to learn piano.