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## PERSONAL PROFILE

I am passionate about Embedded Firmware/Software and FPGAs with great experience from an RF Firmware Engineering placement. I am interested in Linux kernel and driver development and I am active in the open-source community with contributions to Gravity-lang (compiler). I am always looking for an interesting project to dive into.

Key strengths:

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| * Self-motivated * Problem-solving * FPGA Placement experience | * C & C++ * Embedded Firmware/Software * Linux kernel + driver development |

## Employment

Firmware Engineer, Placement Spirent Communications June 2016 – August 2017

* Embedded programming on Xilinx MicroBlaze FPGAs and PIC16/24 microcontrollers.
* Linux USB and PCIe kernel driver development.
* Implemented on-chip power levelling and calibration for GNSS RF signal generators.
* Controlling on-board fans, LEDs, EEPROM, and other peripherals with I2C and SMBus.
* Configuring, building, and maintaining Embedded Linux distributions using Yocto.

## EDUCATIoN

BSc (Hons) Computer Science *(Current)* Plymouth University Fall 2014 – Summer 2018

* **Final Project:** FPGA-based 16-bit RISC soft-microprocessor (with IO & interrupts) and Compiler.
* Courses include: Digital Electronics, Embedded Systems and Compilers, Machine Vision, Computation Theory.

## Open-Source Projects & Contributions

* **16-bit RISC soft-microprocessor**  [bendl/vcc](https://github.com/bendl/vcc) An FPGA-based RISC soft-microprocessor written in Verilog.
* **Self-hosted Compiler and Standard Library**  [bendl/libccl](https://github.com/bendl/libccl) A C-like programming language and optimising compiler supporting, 8086, x86. Includes self-written standard library. C/C++, LLVM, Assembly.
* **Gravity-lang**  [marcobambini/gravity](https://github.com/marcobambini/gravity) Contributor to an open-source compiler and virtual-machine. Contributions include fixing Windows runtime.
* **NRBF Neural Network –** A dynamic NRBF neural network written in Python to predict UK energy usage.

## Additonal Experience and Awards

* Dean’s List 2015 & 2016 member. List of students who achieved academic excellence in their studies.

## Technologies

* C, C++, Python, Linux (user + kernel), Bash
* Linux kernel and driver development
* Xilinx FPGAs, ISE, Vivado, Impact, Visual Studio, CMake, CUDA
* GitHub, GitLab, SVN

## References

Available on request.