Kevin Keegan   Dublin, Ireland

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SUMMARY

Electronic Engineer with 2 years of industry experience.
1st Class Honours Masters degree in Electronic & Computer Engineering from University College Dublin.
Experienced in **Verilog, Python, C, Java, MATLAB & Linux**.
Interested primarily in digital signal processing and embedded systems.

TECHNICAL SKILLS

- **Languages/Tools**: Verilog, Python, Bash, Java, C/C++, LISP, ASM (MIPS32, 8051), MATLAB, Git, LaTeX.
- **Network Programming**: Experienced in TCP/IP Socket programming in Python, C & Java.
- **Concurrent Programming**: Experience in multiprocessing & multi-threaded development.
- **Operating Systems**: Professional experience developing in Linux and Windows environments.
- **Embedded Systems**: Experience in front-end Digital Design (RTL) & developing for microcontrollers such as Arduino, Micropython & ADuC841. knowledgeable in the use of Hardware Timers/Counters, Interrupt service routines and SPI communication.
- **Digital Signal Processing**: Knowledgeable in Fourier analysis, digital filtering and digital communication theory.

PROFESSIONAL EXPERIENCE

Adesto, ASIC & IP Division
Mixed Signal Design Engineer

Dublin, Ireland
Jan 2020 – Present

- Front-End Digital Design. Developing software to automatically generate the Verilog implementation of a frequently redesigned block, along with its System Verilog testbench.

Susquehanna International Group (SIG)
Market Data Engineer

Dublin, Ireland
Sept 2018 – Nov 2019

- Monitoring and maintaining critical market data systems.
- Pcap file analysis via Wireshark/tshark
- Developed validation tools to test new software before pushing to production.
- Implemented a system in Python & Bash to archive daily market data recordings from company colocations to a central archive.
- Developed a set of scripts to analyse the latency of a market data system when subject to a high data rates.
- On call work. When on call, I am the first point of contact for issues regarding SIG's market data infrastructure.

Intel Corporation, Internet of Things and Wearables Group
Physical Design Engineer Intern

Kildare, Ireland
Jan 2017 – Aug 2017

- Worked in a team designing a system in TCL to automate the design, layout & routing of a custom CMOS block.

University College Dublin
Voluntary Teaching Assistant

Dublin, Ireland
Sept 2015 – Nov 2015

- Voluntary Teaching Assistant in weekly laboratories for the engineering module, EEEN20010 Computer Engineering I: Data Structures and Algorithms through C.

FireEye, Inc.
Software Engineer Intern

Dublin, Ireland
May 2015 - July 2015

- Developed BASH scripts to facilitate and automate product testing.
- Built a customized, kickstarted centOS distro to include the configurations and packages necessary for running & testing a company product.

EDUCATION

University College Dublin Dublin, Ireland
Master of Engineering in Electronic & Computer Engineering; 1st Class Honours *Sept 2016 – Sept 2018*
- **GPA**: 3.84/4.2
- **UCD Intel Masters Scholarship**: Awarded by Intel to top five students entering ME program.

University of California Los Angeles Los Angeles, CA
*Exchange - Electrical & Electronic Engineering; **GPA: 3.18/4.0*** *Jan 2016 – Jun 2016*

University College Dublin Dublin, Ireland
Bachelor of Science in Electrical & Electronic Engineering; 1st Class Honours *Sept 2013 – Sept 2016*
- **GPA**: 4.09/4.2
- **Entrance Scholar**: Awarded to top academic achievers entering UCD from secondary school.

Coláiste Eoin Dublin, Ireland
*Irish Leaving Certificate; **Points: 595*** *Sept 2007 – Jun 2013*

PROJECTS

UCD Masters Research Project Dublin, Ireland
Digital and Analog Implementations of Visible Light Communication *Sep 2017 – Present*
- Project Thesis: **thekegman.github.io/Thesis.pdf**
- My project proposes a real-time digital, visible light communication system employing a form of On-Off Keying modulation. It is implemented using an Arduino UNO based LED-Photodiode communication link. It can successfully transfer files between computers over a distance of up to 1.8m.
- Software for this system was developed in C & Python 3.

Noodle Dance Camera Filter
Python Script *Jan 2020*
- Python script using primarily numpy to recreate the popular Camera filter on TikTok.
- Source: **github.com/Thekegman/noodledance**

Spotify Collab Queue
WebApp *Feb 2019*
- Web app with a backend implemented in Python using the Flask framework.
- Using Spotify's API, this web app allows people to collaborate in what music is played by having them submit songs to a live queue.
- Source: **github.com/Thekegman/spotify-collab-queue**

Nikon Trigger
Microcontroller project *Jan 2018*
- Program implemented for pyboard that uses an IR LED to remotely trigger a Nikon camera's shutter release.
- The 38kHz NEC protocol used by the Nikon 'ML-L3" camera remote is replicated using PWM hardware available on pyboard.
- Source: **github.com/Thekegman/Nikon-Trigger-for-MicroPython**

Android Apps
Implemented in Java, available on Google Play
- Guess That Word   May 2016
- The Maze Extravaganza 3D - *OpenGl*   Aug 2013
- The Maze Extravaganza - *36k+ downloads*   July 2012
- Developer page: **http://tiny.cc/x32oaz**

- **Other Projects**
  - RoadTrip Planner: A script that utilises Google's *Places API* to collect a list of interesting locations that reside along the route of a road trip and plots them on a map via *kml* file.
  - System allowing an android device's touchscreen to be used as a wireless trackpad for Windows.