Nelson Kigen Psenjen

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Personal Information

- Date of Birth : 12/05/1989
- Nationality : Kenyan

Interests

- Design of RealTime Systems
- Middleware for Embedded Systems
- Formal Methods for Software Verification
- Dependable Computing Systems
- Linux Kernel

Education

Graduate Program in Computer Science and Engineering — Sept 2012 — Present

Scuola Superiore Sant'Anna, University of Trento, Italy

Current GPA: **28.7/30.0**

Thesis Title: **"Evaluation of Publish-subscribe Architectures for Real-Time Embedded Systems"**

I was among four students selected to do a double degree program that leads to a MSc. Computer Science from University of Trento(Italy) and a M.Eng in Computer Engineering from Scuola Superiore Sant'Anna.(Italy).
My expected graduation is March 2015

My area of specialization is RealTime Embedded Systems.

Main courses include:

- RealTime Embedded Systems
- Embedded system design
- Wireless Sensor Networks
- Non-Linear Optimization methods and Neural Networks
- Formal Methods
- Dependable Computing Systems
- Embedded Control Systems

Bachelors of Science. Electronic and Computer Engineering — Sept 2009 — Oct 2012

Politecnico di Torino, Italy

Mark attained **99/110 .**

Thesis: **SKOS-Based graphics visualizer for the Semantic web**

Diploma in Business Information Technology
Jan 2008 — July 2009

Strathmore University, Kenya

Thesis**: Mobile Bus Reservation System using J2ME and J2EE.**
This is a University Diploma on the design of information technologies for use in the Business and corporate world.

Current/Past Projects

- I'm currently finalizing on my thesis on "Evaluation of Publish-subscribe MiddleWareArchitectures for Real-Time Embedded Systems"
- I have implemented a new scheduling class SCHED_DSS for the Linux OS.(https://github.com/nkigen/linux)
- I have added support for additional boards and other improvements to the ubuild tool for building Linux images for ARM-based systems (github.com/nkigen/ubuild)
- I have written a Telosb mote software to show how JSON and CoAP can interact in Contiki.
- I have written the documentation and contributed a patch to a JSON implementation in ContikiOS (https://github.com/contiki-os/contiki/pull/576)
- I Designed and ported a CMUCam2 driver to the ERIKA Enterprise RTOS.

Skills

- Programming Languages: C/C++, JAVA, Python
- Scripting: Bash, PHP, JavaScript
- Real-Time Operating Systems: Erika Enterprise, ContikiOS
- Operating Systems: Linux
- Mobile OS: Android
- Model-Based Design: Matlab-Simulink, SysML, Scilab
- MicroControllers: Microchip PIC32, dsPIC33f, most major ARM-based chips
- Databases: MySQL, SQLite
- Proficient in Constrained Application Protocol (CoAP) for IoT COOJA Simulation Environment for Wireless Sensor Network(WSN) applications developed for ContikiOS
- Agent Oriented Software platforms : JADE, JACK intelligent Agents

Work experience

Eversnap Inc, San Francisco
01/07/2014 — Present

Lead Android Engineer

- Developing and maintaining the Android application(http://play.google.com/store/apps/details?id=com.weddingsnap.android)
- Rewriting parts of the application toimprove the app's response time across all devices.
- Converting parts of the application into native code to achieve better performance.
- Leading and coordination of the Android team

TechKraze Kenya
April 2009 — Aug 2009

Software Design Intern

I was involved in the design and development of a transport reservation system for a local company. My specific task involved the design and implementation of the client application in JAVA

Achievements/ Awards

- I was selected to join the Vercelli scholarship program of Politecnico di Torino, Italy in 2009 to pursue a BSc. Electronic and Computer Engineering
- I was among four student from the European Union(EU) selected to join a double degree program at University of Trento and the TECiP Institute of Scuola Superiore Sant'Anna both in Italy.