Radu Hambasan

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Nationality: **Romanian**
Date of Birth: **13/08/1994**
Place of Birth: **Sibiu, Romania**

Education

09/2013 to date **Jacobs University, Bremen, Germany**
BSc in Computer Science.
GPA: 1.24 (1.04 within major) on a scale from 1.00 (4.33, A+) to 5.00 (0.00, F).

09/2009 to 06/2013 **Gheorghe Lazar National College, Sibiu, Romania**
Secondary education.
GPA: 9.97/10.0

Practical Experience

09/2011 to date **Software developer at TobyRich GmbH, Bremen**
The company is specialized in smartphone-controlled gadgets. Being a full-stack developer, my tasks included: complete refactoring of the Android app, adding functionality (e.g. social sharing, flight assist) to the app and writing scripts (developing a light framework) to allow for scaffolding and easy creation of C firmware for other projects.
The most important achievement was designing and implementing a novel algorithm for the BLE stack. This enabled low and mid range phones to run the app and fly the Smartplane, which was previously impossible due to a significant lag.

02/2014 to date **Research assistant, Jacobs University, Bremen**
I am working on the MathWebSearch project. MathWebSearch is a content-based search engine for mathematical formulae. It indexes formats like MathML and OpenMath. The code base is C and C++, augmented with LibXML, LevelDB and MicroHTTPd's APIs. A demo is available at search.mathweb.org.
My first task was to replace the backend database (BerkleyDB) with LevelDB. This led to an aprox. 40% improvement in the time performance (due to the fact that LevelDB does not write to disk each time a value is inserted and due to the B+ tree implementation of the DB) and to an aprox. 60% improvement in the space performance (because LevelDB automatically compresses data).

02/2014 to 05/2014 **Research Assistant at DFKI, Bremen**
My tasks included further development of the ROCK framework, by augmenting C++ with Ruby, e.g. a Ruby program that analyzes the content of data streams received from sensors.

02/2014 to 05/2014 **Students@Jacobs website**
This project was part of the Human-Computer Interaction course at Jacobs University. The development was done using Ruby on Rails with LDAP gem (for authentication), Swiftype API (for indexing and the searchbar with auto-completion) and Foreman gem (to avoid indexing on the main thread). The code is available in the GitHub repository.

02/2013 to 09/2013 **Android development**

As a hobby, I developed several Android applications, amongst which:
Nearby Nightclubs: The app uses Google Geolocation, Google Places and Google Maps API to find the users' location and display a list of nightclubs located in the proximity, as well as data (if the user wishes) about that location, e.g. phone number, website, reviews, etc.
Drinks Gage: after an initial setup, users can select the drinks they had and the app tells them their current BAC (blood alcohol level), common symptoms and how long it will take before they reach 0 and are able to drive safely. The most challenging part was the code architecture and the UI design.
Popular Movies: recommends the user a recent movie based on their genre selection. In the background, several websites are parsed for data and the results aggregated and ranked before being displayed to the user in a friendly manner.
The latter has approximately 6000 downloads in the Amazon App Store.

Skills and Achievements

Languages: Romanian (native), English (fluent), German(working proficiency)
Programming: Proficiency in Java
Good knowledge of C++, C, Ruby, SML
Basic knowledge of bash/sh, Python, Prolog, MIPS Assembly
Tools: Git, vim, GNU Make, LaTeX, RoR, Heroku, SQL, Phabricator
Awards: Member of President's List, Jacobs University, 2013 - 2014 (GPA range 1.0 - 1.5)
Gold Medal at the National Physics Olympiad 2012
Honorary mention (top 20) at the National Physics Olympiad 2011
Winner of the Rotary Excellence Award 2010
Third prize at the National Physics and Mathematics Contest "Vranceanu Procopiu" 2010
Interests: Programming, Physics, Puzzles, Working-out, Table tennis