Bc. David Navrkal

Curriculum vitae

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Education

2009–2014 **Bachelor**, *Brno University of Technology, Faculty of Information Technology*, Brno.
University provides general IT knowledge, focused o programming mainly in C/C++.

2015–2017 **Master**, *Zlin Tomas Bata University, Faculty of Applied Informatics*, Brno.
The study was done in combined form next to work in AVG. All subjects are done, only Diploma Thesis needs to be finished.

Bachelors thesis

title *Conversion of Models of Regular Languages*

supervisors Ing. Zbyněk Křivka, Ph.D.

description Thesis deals with how to didactically demonstrate models of regular languages focusing on their mutual conversions. Application was programmed in language C++ using graphical library Qt 5.

Diploma thesis

title *Conversion of Models of Context-Free Languages*

supervisors doc. Ing. Roman Senkerik, Ph.D.

description Thesis extents Bachelors thesis of support of models context-free languages and is also written in C++ using graphical library Qt 5.

Experience

Vocational

November 2014– October 2016	**C++ developer**, *AVG*, Brno.
	Responsible for developing and maintaining product AVG Remote Administration in small team of 2 developers. (Link to product page.) The product is entirely written in C++ and for GUI is used MFC. The product consists of 2 main applications:
	○ <u>Admin Server</u>, which includes database and communicating with AVG Anti-viruses and with Admin Console. Supported databases are Firebird, MS SQL, MySql and Oracle.
	○ <u>Admin Console</u>, which represents UI to Admin server.
	Another applications are:
	○ <u>Network Installer</u>, which performs remote installation of AVG Anti-viruses.
	○ <u>Server monitor</u>, which is small app controling Admin Server Service.
	○ <u>Server Wizard</u>, which deploys and upgrades database.
	I am participating on every component, but mainly on Network Installer which includes using WMI technology and bat and PowerShell scripts. At work we are working in Agile methodology including web tools like JIRA, Confluence and Stash. As version control system we are using Git and development IDE Visual Studio. Minor work also includes developing tool written in C# which analyzes user clicks and stores them in MySql.
January 2013– October 2014	**Linux Administrator**, *Unify*, Brno.
	Remote administration and monitoring of multiple Linux servers in VMware. Working with command line, scripting in Bash. Managing JIRA and Confluence.
	Detailed achievements:
	○ Settings Linux antivirus to scan official production of software for Linux phones.
	– Linux antivirus does not provide direct output if files are safe or not, either exist status, so log files was needed to be parsed and analyzed.
	○ Transition from Clearcase to Git:
	– My role was transition from building on Red Hat Enterprise Linux 3 (RHEL3) to Unbuntu 12.04 LTS
	· Software for phones was build on RHEL3, but Git is not working here, so it needs to modify source codes, building scripts, makefiles and enviroment in Ubuntu to get it work.

Languages

Czech	Mother tongue
English	Fluent
Russian	Basics
German	Basics

Programming languages

C/C++	★★★★★
Qt	★★★★★
C#	★★★★☆
Powershell	★★★☆☆
Bash	★★★☆☆
Java	★★★☆☆
LATEX	★★☆☆☆
HTML/CSS	★★☆☆☆
Python	★☆☆☆☆

(This CV and Diploma thesis are written in LATEX)

OS preferences

Linux	★★★★★
Windows	★★★★★
Unix	★★★☆☆
Mac	★☆☆☆☆

(My favorite distributions are Ubuntu and Debian)

Code editors preferences

Visual Studio	★★★★★
Geany	★★★★★
Vim	★★★☆☆
Eclipse	★★★☆☆
Netbeams	★★★☆☆
Notepad++	★★☆☆☆
Powershell ISE	★☆☆☆☆

Projects

C++, Qt
- *Regular convertor (2014) - Link to sources*
  - *Educational application for conversion finite automata and regular expression.*
- *Contex-free convertor (2016) - Link to sources*
  - *Basicaly it is Regular convertor extended of models of context-free languages.*
- *Game draughts (2013)*
  - *Graphical application for playing draughts with human player or with computer.*
  - *Network application client-server.*

C++, wxWidgets
- *Game pong - written in C++ and GUI in wxWidgets (2015) - Link to sources*

C++
- *Discrete simulator (2012)*
  - *Application also offers support infrastructure for discrete modelling of queueing systems.*
- *24h challenge to create DNS cache optimalized for high performance (2016) - Link to sources*
  - *Application uses custom implementation of double linked queue for keep order of dns records (to free most oldest records) with direct access to elements and unordered map (hash table) from standard library. (Insert, update and search operations are done in constant time!)*

C	○ *Series of homeworks of programming NVIDIA graphics card written in CUDA using C. (2016) Link to sources*
	○ *Series of C homeworks at school in Zlin (2016) - Link to sources*
	○ *Graph analyser (2012)*
	– *Text program which analyse undirected graphs and print their properties.*
	– *Input is loaded in format called Trivial Graph Format (TGF).*
	○ *TCP scaner (2012)*
	– *Network program which scans selected TCP ports on selected computers.*
	– *Application uses BSD sockets.*
	○ *Interpreter for language Lua (2011)*
	– *Interpreter consist of lexical parser, syntactic parser, expression parser and interpreter.*
Java	○ *Petri net simulator (2012)*
	– *Includes editor of Petri net and performing simulation.*
	– *Network application client/server.*
C#	○ *SQM Analyzer - Enxtend and maintain at AVG (2016)*
	– *Gets text files with data how customers are using AVG Remote Administraton, and feads with this data MySql db.*
	– *In GUI (Winforms) shows graphs and tables with structuded data.*
	○ *Graphic database application - school project (2013)*
python, wxWidgets	○ *Simple calculator - School project in Zlin (2016) - Link to sources*
LATEX	○ *This CV (2016) - Link to sources*

Computer skills

Programs	Vim, top, screen, ps, make, ant, sed, awk, putty, ssh, Jenkins, Nagios, Byobu, Git, Clearcase, Qt Creator, NetBeans, World, Excel, Outlook, Open Office, LATEX.
OS	Linux (Debian, Ubuntu) - expert, Windows XP/7 - advanced user.

Interests

Technical	New technologies, Linux, programming, Raspberry Pi, Android, understanding how technologies works, disassembling thinks, computer games.
Non-technical	Cooking, trips in nature, mountain bike, meeting with friend in pub, board games, movies, gardening, girlfriend, personal development, popular science, listening radio, reading news, travelling.