




Miroslav Vitkov

Curriculum Vitae

TECHNICAL SKILLS

EXPERT	<ul style="list-style-type: none">* C++14 under procedural, object oriented and functional paradigms* C11 for μC and ARM applications* supporting tools git, gitolite, cmake, teamcity
PROFICIENT	<ul style="list-style-type: none">* python for ML applications* bash, the LFHS, most standard utilities, security configuration and evaluation, unix sockets* \LaTeX
EXPERIENCED	<ul style="list-style-type: none">* R* MatLab* digital and analog hardware design* USB, I2C, SPI firmware* Autodesk Inventor, SolidWorks, CATIA* SDL2, OpenGL* Haskell* OpenCV* PyQt* Deep learning* Computational linguistics

	Druzhba-2, Sofia, Bulgaria
	0895 735 164
	sir.vorac@gmail.com

EDUCATION

2017 – NOW	Machine Learning Scientist COGNITIVE SYSTEMS: LANGUAGE, LEARNING AND REASONING (MASTER OF SCIENCE) <i>University of Potsdam, Germany</i>
2007 – 2016	Industrial Engineer BACHELOR THESIS: MULTITASKING AUTOTUNING PID CONTROLLER IN HEAT TRANSFER APPLICATION <i>Technical University of Sofia</i>
2003 – 2007	Communications technician HIGH SCHOOL DIPLOMA <i>Technical School of Communications, Sofia</i>

COMMUNICATION SKILLS

BULGARIAN	C2: Native speaker
ENGLISH	C2: Fluent (Cambridge CPE)
GERMAN	A1: Basic

PROJECTS ON GITHUB

C++	face <i>Use OpenCV Haar cascades to identify persons.</i>
C++	rocks <i>Multiclass classification. Uses dlib.</i>
C++	silhouette <i>Human silhouette extraction using HOG descriptor, SVM classifier and adaptive background thresholding.</i>
C	micli <i>Micro CLimate controller, an autotuning PID regulator.</i>
C	megaboot <i>Simple atmega168 bootloader.</i>
C	cgetset <i>Generate getter/setter methods. Self-contained.</i>
PYTHON	rtplot <i>Realtime temperature plotting utility.</i>
PYTHON	gender <i>Guess the gender of the author of a short paragraph.</i>
HASKELL	voiceid <i>Identify different persons via speech.</i>
LATEX	rpg <i>A role-playing game.</i>
INVENTOR	gearbox <i>Gearbox design and technical drawings.</i>

WORK EXPERIENCE

04 JAN 2016 - 07 SEP 2017

Euro Games Technology

C++ Linux developer

Developing core functionality for a large C++ system, subject to certification, legislation and money handling. Some tasks:

- GNU utilities, Linux sockets, IPC, multithreading, bash scripting
- C++14, CMake, clang-tidy
- OpenGL, SDL2

Some projects:

- bill acceptor device firmware - handle money responsibly
- support and evolve a video API for about 200 internal clients
- script gitolite hooks and communicate their purpose to colleagues

20 MAY 2013 - 21 MAR 2015

Antelope Audio

C++ ARM developer

Implementation of a complex audio processing algorithm in C++ for ARM. Audio signal processing design (z-transform, filters, impulse response, amplitude and phase diagrams). GUI design with Python and Qt. OpenOCD and hardware considerations.

12 FEB 2013 - 13 MAY 2013

Johnson Controls

C embedded developer

Embedded C, concurrency, unit tests and documentation.

22 AUG 2011 - 15 JAN 2013

MM Solutions Ltd

C++ algorithms for Android

C++ with Boost, OpenCV etc. libraries for ARM. GNU/Linux and git. Digital video processing in 3D environment (quaternions, field of view, image recognition, gyroscopes).