

Miroslav Vitkov

Curriculum Vitae

TECHNICAL SKILLS

EXPERT * C++14
* C11
* git

PROFICIENT * (embedded) GNU/Linux,
Bash scripting
* python3, matplotlib,
numpy, sklearn, pandas
* CMake, GNU make
* L^AT_EX
* R
* Bayesian inference
* Markov chains,
hypothesis testing

EXPERIENCED * MatLab
* digital and analog
hardware design
* USB, I2C, SPI firmware
* Autodesk Inventor,
SolidWorks, CATIA
* SDL2, OpenGL
* Haskell
* OpenCV
* PyQt
* Deep learning
* Computational linguistics



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EDUCATION

2017 – NOW

Machine Learning Scientist

COGNITIVE SYSTEMS: LANGUAGE,
LEARNING AND REASONING (MAS-
TER OF SCIENCE)

*University of Potsdam, Ger-
many*

2007 – 2016

Industrial Engineer

BACHELOR THESIS:

MULTITASKING AUTOTUNING PID
CONTROLLER IN HEAT TRANSFER
APPLICATION

Technical University of Sofia

2003 – 2007

Communications technician

HIGH SCHOOL DIPLOMA

*Technical School of Commu-
nications, Sofia*

COMMUNICATION SKILLS

BULGARIAN C2: Native speaker

ENGLISH C2: Fluent (Cambridge CPE)

GERMAN A1: Basic

PUBLIC PROJECTS

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 of the daily tasks include:

- GNU utilities, Linux sockets, IPC, multithreading, bash scripting
- C++14, CMake, clang-tidy
- OpenGL, SDL2
- Bill acceptor device fail-safe communication and control
- scripting for gitolite server administration

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).