

# Miroslav Vitkov

## Curriculum Vitae

### TECHNICAL SKILLS

|             |  |
|-------------|--|
| EXPERT      | <ul style="list-style-type: none"><li>* C++14</li><li>* C11</li><li>* git</li></ul>  |
| PROFICIENT  | <ul style="list-style-type: none"><li>* (embedded) GNU/Linux, Bash scripting</li><li>* python3, matplotlib, numpy</li><li>* CMake, GNU make</li><li>* L<sup>A</sup>T<sub>E</sub>X</li><li>* R</li></ul>  |
| EXPERIENCED | <ul style="list-style-type: none"><li>* MatLab</li><li>* digital and analog hardware design</li><li>* USB, I2C, SPI firmware</li><li>* Autodesk Inventor, SolidWorks, CATIA</li><li>* SDL2, OpenGL</li><li>* Haskell</li><li>* OpenCV</li><li>* PyQt</li></ul> |

### COMMUNICATION SKILLS

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



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### EDUCATION

|             |   |
|-------------|---|
| 2007 – 2016 | <b>Industrial Engineering (in English)</b><br>BACHELOR THESIS:<br>MULTITASKING AUTOTUNING PID CONTROLLER IN HEAT TRANSFER APPLICATION<br><i>Technical University of Sofia</i> |
| 2003 – 2007 | <b>Communications technician</b><br>HIGH SCHOOL DIPLOMA<br><i>Technical School of Communications, Sofia</i>   |

### PUBLIC PROJECTS

|                    |   |
|--------------------|---|
| C++                | <b>identity</b><br><i>Identify persons. Uses OpenCV.</i>                      |
| C                  | <b>micli</b><br><i>Micro CLimate controller, an autotuning PID regulator.</i> |
| C                  | <b>megaboot</b><br><i>Simple atmega168 bootloader.</i>                        |
| C                  | <b>cgetset</b><br><i>Generate getter/setter methods. Self-contained.</i>      |
| PYTHON             | <b>rtplot</b><br><i>Realtime temperature plotting utility.</i>                |
| HASKELL            | <b>voiceid</b><br><i>Identify different persons via speech.</i>               |
| LAT <sub>E</sub> X | <b>rpg</b><br><i>Role-playing game.</i>                                       |
| INVENTOR           | <b>gearbox</b><br><i>Gearbox design and technical drawings.</i>               |

## WORK EXPERIENCE

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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++ embedded 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++ embedded developer*

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).