

Grisha Revzin <https://revzin.github.io/cv22/>

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EDUCATION

Bauman Moscow State Technical University, 2016 GPA: 4,71/5

B. Sc. in Construction and Technology of Electronic Devices

WORK

Jun 2015	Board Design Engineer @ Acoustic Control Systems Ltd. (Moscow)
Sep 2016	PCB design and microcontroller firmware for ultrasonic test devices
Sep 2016	Chief Technology Officer @ R-SEPT/Maslov.ai (Moscow)
current	<p>Tech leadership and hands-on engineering, startup-style team of 6. Milking robot, employee hand movement analysis system. Specifications, multi-discipline system planning, costs analysis, design (electronics, pneumatics, mechanical), review, development coordination (mechanical, schematic, PCB, firmware/Linux code), wiring, assembly, debug and field testing.</p> <p>Engineering accomplishments:</p> <ul style="list-style-type: none">• Designed and implemented numerous PLC-like control modules: ~100 discrete I/Os on shift registers, ~20 4..20 mA current loop I/Os, TCP/UDP connectivity over Ethernet (LwIP/FreeRTOS), CAN connectivity, 4-channel sample-and-hold conductivity meter, 4-channel weight sensor converter.• Designed a transport layer for a CAN-based device network with unified APIs for device side (STM32 bxCAN) and Linux side. Circuit, layout and firmware for an Ethernet-CAN gate (LwIP/FreeRTOS).• Wrote a Linux server (C) that abstracts “logical” objects (doors, sensors, movement axes, etc) from “physical” I/Os (Ethernet and CAN controllers, EtherCAT servodrives) accessible via Python-C network socket API.• Implemented a forward/inverse kinematics and collision detection model for the milking robot arm and other logical objects with 3D visualization (Python)• System design, circuit & board layout, firmware for a wearable movement data acquisition system: 6DOF armband with Flash memory connects to a base station (8-16 armbands) over a custom USB connector; base station provides access to data collected by armbands via a Python client (TCP/IP+Ethernet).• Designed and implemented a cascade-PID real-time positioning controller for a vertical pneumatic axis with high stiction (C on Cortex-M4, tuning UI in Python)

QUALIFICATIONS & EXPERIENCE

Electronics	Analog & digital circuit design, SPICE simulation, PCB layout, manual and semi-manual PCB prototype assembly, instrumented lab and field testing & debug (scope, logic analyzer, etc). Microcontrollers (Cortex-MX), FPGA/Verilog (middle). SPI, UART (RS232, RS485), I2C with various devices. Low-power wearable-devices. BLDC motor control. ECAD: Altium Designer, Cadence Allegro (aka OrCAD), ANSYS Maxwell.
Programming	C (proficient, embedded & desktop), C++ (middle), Python (proficient, desktop side: device control and communications, debug, tracing and UIs - matplotlib, numpy, PyQt), object-oriented design, network programming (custom protocols over TCP and UDP, LwIP, POSIX sockets), multithreading & RTOS (FreeRTOS), Linux, Git.
System Level	CAN bus (custom transport and CANOpen), USB: Vendor Specific device (STM32 USB driver) and host side (libusb) design and programming; Embedded Ethernet. Industrial electrics: servo & AC motor control. EtherCAT master.
Mechanical	SolidWorks, Autodesk Inventor. Modeling and drafting, DFM, common fabricating methods, ECAD/MCAD coordination. AutoCAD (system-level schematics).
Other	Pneumatics (proficient), HTML, MIG & TIG welding, L ^A T _E X, robotic milking

Languages: English (fluent), Russian (native), Hebrew (beginner)