

Andrei-Gabriel Stroe.

// Robotics Software Engineer

Humanoid Robots, ROS 2, C++, Python, Reinforcement Learning, Sim-to-Real

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01 AT A GLANCE

10+

years in Linux,
networking &
cloud

2×

sole engineer for a
company's entire
infrastructure

32 DoF

humanoid driven
by a VLA policy

65%

VLA success on 5
language tasks

02 CORE STACK

ROS 2

C++

Python

PyTorch

Reinforcement Learning

Sim-to-Real

NVIDIA Isaac Lab

MuJoCo

Gazebo

ros2_control

Movelt 2

Whole-Body Control

Computer Vision

EtherCAT

Linux

Docker

AWS

03 PLATFORMS

Harambe

Love Death &
Robots

IN-HOUSE

T200

32-DoF
humanoid

IN-HOUSE

Unitree G1

Unitree Robotics

Adam Lite

PNDbotics

04 LANGUAGES

Romanian
native

English
C2, proficient

German
A2, basic

French
A2, basic

Driving licence: category B

05 EDUCATION

2016 - 2018

**Communications and Electronic
Security Systems Engineering**

Master's degree · Military Technical
Academy "Ferdinand I", Bucharest

2011 - 2015

**Aviation Equipment and
Installations**

Bachelor's degree · Military Technical
Academy "Ferdinand I", Bucharest

06 PROFILE

Robotics Software Engineer developing humanoid robots end to end: reinforcement learning (RL) and sim-to-real deployment, whole-body control and bipedal locomotion, motion planning and manipulation, perception, Vision-Language-Action (VLA) models and conversational human-robot interaction (HRI). Backed by 10 years of experience in Linux, networking and cloud infrastructure (AWS, GCP, VMware), with a strong focus on reliable, well-deployed systems.

07 EXPERIENCE

Robotics Software Engineer

Sep 2025 - Present

Love Death & Robots SRL · Bucharest, Romania

- **Reinforcement learning and sim-to-real:** trained locomotion, imitation and arm policies in NVIDIA Isaac Lab (RSL-RL, Proximal Policy Optimization (PPO), domain randomization) and deployed them on hardware via ONNX, custom C++ ros2_control controllers and Gazebo policy plugins; validated sim-to-sim across Isaac Lab, MuJoCo and Gazebo via ROS 2 bridges.
- **Vision-Language-Action (VLA) model:** end-to-end pipeline for the 32-DoF T200 humanoid in MuJoCo: inverse kinematics (IK) scripted expert, 3,000 parallel-collected demonstrations, ResNet-18 + Transformer policy with action chunking (PyTorch); 65% average success on 5 language-conditioned tasks.
- **Motion imitation from human video:** pipeline from video of a person to humanoid motion: GVHMR pose estimation, retargeting onto the robot URDF with quality checks, PPO training in MuJoCo MJX, ONNX export.
- **Whole-body control and bipedal walking:** integrated mc_rtc with ROS 2 in simulation and on the real robot (center of mass (CoM) and posture tasks, baseline walking controller); corrected the dynamic model (inertia, mass/CoM, friction, dual IMU) to match Isaac Lab physics; bipedal walking controller in MuJoCo.
- **Actuator control over EtherCAT:** PVT controllers and RL policy nodes in C++ on an EtherCAT test bench (torque deadband, EMA filtering, safety limits, damping mode, setpoint interpolation, PyQt tuning GUI); motor identification and per-joint PD/PVT tuning.
- **Motion planning and manipulation:** Movelt 2 for humanoid arms (IK, trajectory execution, OctoMap collision checking), gripper controller, Movelt Servo teleoperation (keyboard, joystick), ROS 2 driver for Inspire RH56DFX dexterous hands over RS485 Modbus RTU.
- **Also:** perception and state estimation (YOLOv8, RGB-D vision, IMU + visual-odometry EKF), robot modeling (Xacro/URDF for Isaac, MuJoCo and Gazebo) and a bilingual voice HRI system on ROS 2.

2016 - 2025 · INFRASTRUCTURE FOUNDATION

System Engineer · Infrastructure, Cloud & SAP

Apr 2022 - Sep 2025

System Innovation Ro S.R.L. · Bucharest, Romania*Responsible for the company's entire server and network infrastructure.*

- **SAP Business One:** administered SAP Business One systems; installed and configured the SAP HANA and Microsoft SQL Server databases behind them; debugged SAP and database errors; main technical contact for SAP database topics between clients and internal teams.
- **Servers and cloud:** administered SUSE Linux and Windows Server 2016/2019 and physical servers through HPE iLO; deployed and managed VMs on AWS and GCP and private clouds on VMware vSphere and Hyper-V (VPCs, subnets, security groups, IAM policies).
- **Automation and monitoring:** automated OS patching, software installation and system hardening with Ansible; real-time monitoring with Nagios (performance metrics, dashboards, log analysis).
- **Backup and disaster recovery:** designed and tested SLA-compliant backup and disaster recovery (DR) strategies with AWS Backup, Veeam, Acronis and Windows Server Backup.

System Engineer · Infrastructure & Video Surveillance

Nov 2021 - Apr 2022

Ideal Fit Intelligence Support S.R.L. · Bucharest, Romania

- **Video surveillance:** administered the Trassir and Hikvision video-surveillance servers (camera channels, alarm rules, recording settings); installed cameras on site and brought them online for live monitoring.
- **Servers and networking:** administered Windows Server 2016 (Active Directory, IIS, Group Policy), a cPanel mail server and a Hyper-V private cloud; configured Mikrotik and Fortinet equipment; resolved incidents and trained users.

System Engineer · Infrastructure & Application Support

Jul 2020 - Nov 2021

S.C. Speedtransfer S.R.L. · Bucharest, Romania

- **Application and database support:** debugged MoneyGram money-transfer software and internal applications; fixed issues in the PostgreSQL databases behind them.
- **Servers and communications:** administered Linux (CentOS, Debian) and Windows Server 2016; installed an Axigen mail server and an Asterisk VoIP telephony server; administered the Dahua video-surveillance server.
- **Cloud and networking:** deployed AWS VMs and a VMware vSphere private cloud; configured Fortinet equipment; resolved incidents through a ticketing system.

System Engineer · Infrastructure Build-out

Mar 2019 - Nov 2021

Compania Municipala Paza si Securitate Bucuresti · Bucharest, Romania*Designed and built the entire IT infrastructure from scratch as the sole system engineer.*

- **Servers:** installed and administered Windows Server 2012R2/2016 (Active Directory, DNS, IIS, Group Policy) and Linux servers (CentOS, Ubuntu), with backups and firewall configuration.
- **Email, telephony and virtualization:** set up company email on a Zimbra mail server and the phone system on Asterisk VoIP; managed Hyper-V and VirtualBox private clouds and AWS VMs.
- **Networking:** configured FortiGate firewall policies, SSL-VPN and SD-WAN, plus Cisco, Mikrotik and Fortinet equipment; trained staff on the new systems.

System Engineer · Infrastructure & Security Operations

Sep 2017 - Feb 2019

S.C. Class IT Outsourcing S.R.L. · Bucharest, Romania

- **Security and networking:** debugged and fixed security operations center (SOC) errors; configured Cisco routers (firewall, WLAN, LAN) and installed Cisco and Fortinet equipment.
- **Servers and cloud:** administered Linux (CentOS, Ubuntu), Windows Server 2012/2012R2, Linux mail servers and Microsoft Exchange; managed VMware vSphere and Hyper-V private clouds and AWS/GCP VMs; resolved incidents through a ticketing system.

System Engineer · Infrastructure & Deployment

Feb 2016 - Feb 2017

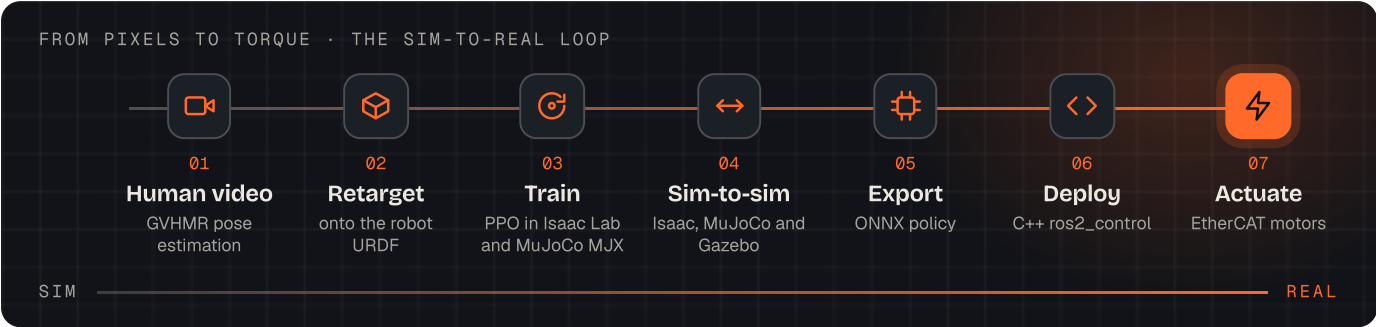
S.C. Critical Technologies S.R.L. · Bucharest, Romania*EU-funded project for the General Inspectorate for Emergency Situations (IGSU); sole engineer responsible for the entire hardware and IT infrastructure.*

- **End-to-end deployment:** installed and configured CoordCom, the emergency call-handling and dispatch system, with its full hardware stack, from hardware setup and OS installation to go-live.
- **Infrastructure:** designed and administered the Cisco network; administered CentOS and Windows Server 2012R2 (Active Directory, DNS, IIS, Group Policy) and a Zimbra mail server; deployed AWS and GCP VMs.

08 TECHNICAL SKILLS

The toolbox.

Robotics and AI on top of ten years of production infrastructure: from training policies in simulation to the servers, networks and clouds they run on.



ROBOTICS & AI 46 TOOLS

ROBOTICS 12

ROS ROS 2 ros2_control MoveIt 2 MoveIt Servo

RViz mc_rtc NVIDIA Isaac Lab MuJoCo / MJX

Gazebo URDF Xacro

MACHINE LEARNING AND AI 08

PyTorch **reinforcement learning** PPO · RSL-RL

imitation learning Vision-Language-Action (VLA) models

domain randomization ONNX Runtime LLM integration

Model Context Protocol (MCP)

CONTROL AND PERCEPTION 12

PID and PVT control whole-body control bipedal locomotion center of mass (CoM) and zero moment point (ZMP)

forward and inverse kinematics (FK/IK) trajectory planning collision avoidance computer vision OpenCV YOLOv8 OctoMap

sensor fusion (EKF)

PROGRAMMING AND TOOLS 09

C++ Python Bash PowerShell Git GitHub

CMake Docker PyQt5

HARDWARE INTERFACES 05

EtherCAT Modbus RTU / RS485 Unitree SDK2

Intel RealSense Inspire dexterous hands

INFRASTRUCTURE 28 TOOLS

CLOUD AND VIRTUALIZATION 06

AWS EC2 · S3 · EBS · RDS · VPC · IAM · CloudWatch · Route 53 · AWS Backup

GCP Compute Engine · VPC · IAM · Cloud Storage

Azure Virtual Machines · Entra ID · Blob Storage

VMware vSphere ESXi · vCenter Hyper-V Oracle VM

SYSTEMS AND AUTOMATION 04

Linux Ubuntu · CentOS · Debian · Red Hat · SUSE

Windows Server Active Directory · Group Policy · DNS · DHCP

Ansible Nagios

SAP AND DATABASES 04

SAP Business One SAP HANA Microsoft SQL Server

PostgreSQL

NETWORKING, BACKUP AND DR 14

TCP/IP VPN firewalls security groups and NACLs

NAT gateways VPC Flow Logs Wireshark Cisco

Fortinet Mikrotik Veeam Acronis recovery testing

disaster recovery planning