



# tefan Cula

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## About me

I'm an enthusiastic robotics student with a great interest for the various fields of the STEM domain, constantly trying to improve myself to be ready to take up challenges. In addition, one of my greatest assets is the ease with which I adapt to any teamwork environment, groups being where I feel myself the most.

## Work experience

**Engineering and Simulation Intern** | ADA Computers | 26/06/2023 - 25/08/2023 | Bucharest, Romania

Key accomplishments:

- Used NX to create 3D models and technical drawings compliant with industry standards.
- Ran simulations in Process Simulate to optimize production processes across Automotive, Robotics, and R&D.
- Collaborated with the technical team on efficient design and production solutions.
- Built communication skills presenting technical solutions to clients and colleagues.

**Front-end developer** | National Organization of Romanian Scouts | 25/11/2020 - Current

Key achievements and responsibilities:

- Collaborated with cross-functional teams, including designers and back-end developers, to build feature-rich web applications.
- Developed modern, responsive UIs using Angular for a seamless user experience.
- Applied best practices in web development, including code optimization, testing, and responsive design.
- Maintained and enhanced existing web applications to meet evolving organizational needs.
- Took part in planning and executing web development projects from concept to deployment.
- Stayed current with web development trends and integrated relevant technologies into projects.

**Specialist in Computer Aided Design** | Digital Twin | 10/03/2024 - 01/08/2025 | Bucharest, Romania

- Delivered specialized NX trainings in Electrical Routing, CAD modeling, and Progressive Die Wizard to enhance user proficiency and design accuracy.
- Hosted webinars on emerging design technologies and industry innovations, expanding user adoption and engagement across client networks.
- Provided advanced technical support and troubleshooting for clients in automotive, aerospace, and manufacturing sectors, ensuring optimal CAD performance.

**Print Farm Manager** | 3DAPI Sucursala Bucuresti | 24/05/2026 - Current | Bucharest, Romania

- Managed the daily operation of a 3D printer farm, overseeing print scheduling, machine allocation, and workflow efficiency.
- Monitored print quality and performed maintenance and calibration to minimize downtime and print failures.
- Coordinated with clients to manage orders, timelines, and specific production requirements.
- Optimized print settings and material usage to improve efficiency and reduce costs.
- Troubleshooted technical issues across multiple printers and implemented preventive maintenance practices.

**External Teacher Collaborator** | National University of Science and Technology POLITEHNICA Bucharest | 29/09/2025 - Current | Bucharest, Romania

- Database Design: Teaching relational modeling and MySQL querying, emphasizing practical data design and optimization.
- Hydraulic and Pneumatic Systems: Teaching design and simulation of fluid powered systems.
- Introduction to ANSYS: Teaching core finite element analysis principles, focusing on meshing, boundary conditions, and result interpretation within ANSYS Workbench to build strong simulation and engineering validation skills.
- Industrial Management: Teaching decision making algorithms and how to make informed decisions

## Education & Training

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**Bachelor Degree in Robotics** | Polytechnica University of Bucharest | 05/10/2020 - 13/06/2024 | Bucharest, Romania

- occupational techniques (making of standard breads, fancy breads, cakes and pastries)n- science applied to food and equipment (microbiology, biochemistry, hygiene)n- occupational technology (basic principles, hygiene, safety)n- knowledge of business and its economic, legal and social context

**Field(s) of study:**Industrial Robotics | **Address:** Splaiul Independenței 313060042

**Master Degree in Management of Virtual Industrial Enterpriss** | National University of Science and Tehnology Polytechnica Bucharest | 30/09/2024 - 16/06/2026 | Bucharest, Romania

## Conferences & Seminars

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**SLS&OPTIROB Conference 2022** | 01/07/2022 - 02/07/2022 | Jupiter, Romania

Got selected to present the paper on the ball-screw thermal error feedback system at the Conference. We won second place.

**Design, Modeling-Simulation and Assisted Engineering in Robotics Symposium** | 13/05/2022 | University POLITEHNICA of Bucharest

Paper about the effects of ball-screw thermal deformation in the positioning precision. Won special award.

**Robotics in Industry and Services Symposium** | 13/05/2022 | University POLITEHNICA of Bucharest

Designed a working porotype of a cartesian CNC machine, using an ESP32 module. In addition, the ability to quick swap in order to work as a 3D printer. Won second place.

**Digital Production Systems Symposium** | 05/05/2023 | University POLITEHNICA of Bucharest

The Design and Structural Optimization of an End-Effector for Manipulating Revolved Bodies. Won third place.

**Robotics in Industry and Services Symposium** | 05/05/2023 | University POLITEHNICA of Bucharest

Refurbishment and Modernization of a Robotic Manufacturing Cell. Won first place.

## Publications

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### [The Development of a Ball-screw Thermal Error Feedback System Based on FEM Simulations](#)

2023.

This paper proposes a simulation-based approach using computer aided software to address thermal errors in numerically controlled axes, which negatively impact the working accuracy of shop floor devices. The obtained results are utilized to evaluate the temperature-displacement relationship, enabling the design, simulation, and validation of different control techniques.

### [THE DEVELOPMENT OF A FLEXIBLE ROBOTIC MANUFACTURING CELL](#)

2023.

The paper aims to provide a constructive solution for implementing a group of industrial robots in a flexible manufacturing cell for educational purposes, involving refurbishment, documentation procedures, reconfiguration, and optimization to align with current manufacturing industry trends, ultimately enhancing understanding and improvement of CIM cells and generating educational resources for future research.

<https://aos.ro/wp-content/proceedings/PVol15Nr1Art.2.pdf>

### [Influence of 3D Printing Parameters on Apparent Resistivity, Repeatability and Time-Dependent Drift of Conductive PLA](#)

Diana Popescu, tefan Cula, Lidia Florentina Parpal (2026). MDPI 10.3390/pol  
[https://www.researchgate.net/publication/405172023\\_Influence\\_of\\_3D\\_Printing\\_Parameters\\_on\\_Apparent\\_Resistivity\\_Repeatability\\_and\\_Time-Dependent\\_Drift\\_of\\_Conductive\\_PLA](https://www.researchgate.net/publication/405172023_Influence_of_3D_Printing_Parameters_on_Apparent_Resistivity_Repeatability_and_Time-Dependent_Drift_of_Conductive_PLA)

**Skills**

AutoCAD | Fusion 360 | SolidWorks | C/C++ | Python | Angular | NX | ANSYS | Django | Microsoft Office 365 | Linux | Tecnomatix Process Simulate | TIA Portal

**Language Skills**

Mother tongue(s): **Romanian**

|         | Understanding |         | Speaking          |                    | Writing |
|---------|---------------|---------|-------------------|--------------------|---------|
|         | Listening     | Reading | Spoken production | Spoken interaction |         |
| English | C2            | B2      | C2                | C2                 | C1      |

**Volunteering**

**FIRST Tech Advisor and Control System Advisor | 10/09/2022 - Current | Bucharest**

In this role, I served as a FIRST Tech Advisor and Control System Advisor for the First Tech Challenge in Romania. This volunteer experience allowed me to actively contribute to the organization's efforts in promoting STEM education and inspiring young minds to pursue careers in technology and engineering.

Key responsibilities included:

- Providing technical guidance and support to student teams participating in the First Tech Challenge.
- Assisting teams in the design, development, and programming of their robotic systems.
- Collaborating with event organizers to ensure the smooth execution of robotics competitions and challenges.

This volunteering experience allowed me to share my passion for technology and STEM education, mentor aspiring young engineers, and contribute to the growth of the First Tech Challenge in Romania, all of which align with my dedication to promoting STEM education and fostering the next generation of innovators.

**Member of the Local Center Council and Administrative Coordinator | 10/04/2020 - 22/05/2026 | Craiova**

In this role, I served as a member of the Local Center Council, and I also held the position of Administrative Coordinator. This volunteer experience allowed me to actively contribute to the organization's initiatives, participate in decision-making processes, and oversee administrative tasks.

Key responsibilities included:

- Collaborating with the Local Center Council to make strategic decisions and plan local initiatives.
- Managing administrative tasks and ensuring the smooth operation of the organization's activities.
- Supporting and coordinating various projects and events within the local community.

This volunteering experience provided me with valuable insights into organizational governance and administrative management, while also allowing me to make a positive impact on the local community.