

**Last updated:** June 29<sup>th</sup>, 2023

**Full name:** Matevž Borjan Zorec

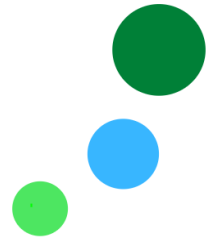
*MSc Robotics & Computer Engineering*

*BSc Ele. Eng., Control Systems & Automation*

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**Motto:** *Practise Flexible Mind*

1) **Date and place of Birth:** Jan 4<sup>th</sup> 1995, Ljubljana, Slovenia

2) **Citizenship:** Slovenian

3) **Education:**

### *1. Elementary level*

Place of Study: **Primary School Vrhovci** (Osnovna šola Vrhovci)

Year of study: 2001 - 2009

Extra Curricular: athletic competitions, choir, hiking club, astronomy club, scouts association, model making club, rock climbers club, music school - guitar & piano lessons

### *2. Secondary level*

Place of Study: **Jože Plečnik High School Ljubljana** (Gimnazija Jožeta Plečnika Ljubljana)

Field of Study: Gimnazija/Secondary school, natural science focus

Year of study: 2009 - 2013

Extra Curricular: athletic competitions, English reading badge, German reading badge, astronomy club, scouts association

Key Achievements:

Award for Student Study of Contaminants in Ljubljana's drinking water

Award for Student Study of Photovoltaics and their Applications in Ljubljana

Place of Study: **Conservatory for music and ballet Ljubljana** (Konservatorij za glasbo in balet Ljubljana)

Field of Study: Piano, Bassoon and Solfeggio

Year of study: 2005 - 2013

Extra Curricular: Youth Wind Orchestra

Performances: 100, live audience & recitals, public performances

Place of Study: **Vocational school for pharmacy, cosmetics and healthcare** (Srednja šola za Farmacijo, Kozmetiko in Zdravstvo)

Field of Study: Dental Technician Programme for Adults

Year of study: 2015 - 2017

Apprenticeship: Health Centre Ljubljana, Vič-Rudnik division, Denture Lab. June - July 2017



### 3. *Tertiary Level*

Place of Study: **University of Ljubljana (Uni-Lj)**

Department: **Faculty of Electrical Engineering**

Field of Study: Electrical Engineering

Year of study: 2013 - 2021

Societies: Preboj, EESTEC, Zavod 404, BEST, IEEE Student Society, UGRG, FIRST Global Slovenia, Robolab DIR Staff

Place of Study: **University of Tartu (UT)**

Department: **Faculty of Science and Technology, Institute of Technology**

Field of Study: Robotics, Space Technology & Computer Engineering

Year of study: 2021 - 2023, Cum Laude; GPA 4.82/5.0

Thesis: XR Teleoperation Demo Development

(<https://ims.ut.ee/www-public2/at/2023/msc/atprog-magistrit55-loti.05.036-matevzh-borjan-zorec-text-20230525.pdf>)

Societies/Labs: Starter Tartu, HackEST, Autonomous Driving Lab, Distributed Systems Lab, Computer Graphics and VR Lab

#### **Extra Curricular Project work:**

National Biology Institute	2014	Bioinformatics analysis of biological data
Slovenian Forestry Institute	2015	EUFORGEN: assisted with Biomonitoring of Forestry Genetic Data
ITIS, Centre for Implantable Technology and Sensors d.o.o.	2017	Vagus nerve IR stimulus response measurement
Faculty of Electrical Engineering, Uni-Lj & Zavod 404	2016 - 2018	Microtransat
Zavod 404	2017 - 2018	FIRST Global, Team Slovenia
UniGuyana Robotics Club	2019	Roboduino
UniGuyana Robotics Club	2020 - 2023	SEN STEM Robotics Programme
Faculty of Electrical Engineering, Robolab, Uni-Lj	2019 - 2020	Days of Industrial Robotics
Faculty of Public Administration, Uni-Lj	2020	ŠIPK Smart Waste Management
SemuBot	2023-	Humanoid robot development for communications therapy

#### 4) **Principal Fields of Interest:**

Robotics, Automation, Space Systems Engineering, Prosthetics, Haptics, Extended Reality, Affective Computing, Online Education.

#### 5) **Work Experience:**



Position: Maintenance Officer

Organisation: Celica Biomedical d.o.o.

Date: August 2011 - May 2021

Job Description: Janitorial duties, sanitation, basic workplace maintenance

Skills: Self-motivation, organisation, attention to detail, communication, time management, honesty, versatility, discretion, consistency, attentiveness, autonomous working, adequate friendliness, problem-solving, inventory management, and equipment maintenance.

Position: Temporary Assistant Lab Technician

Organisation: Slovenian Forestry Institute

Date: May 2015

Job Description: Assistance in preparation of samples for forestry genetic monitoring

Skills: organizational, teamwork, attention to detail.

Position: Chef's Assistant

Organisation: Super Ilc

Date: Apr - May 2017

Job Description: Dishwasher & catering assistant.

Skills: manual handling & dexterity, knowledge of food handling, sanitation.

Position: Carpenter's Assistant

Organisation: 4MK Marjan Kovač s.p.

Date: Oct - Nov 2016

Job Description: Joinery, carpentry work, finalising fit & finish, material preparation and handling of domestic furniture.

Skills: woodworking, material handling, joinery, manual dexterity, self-motivation, and attention to detail.

Position: Inventory Assistant

Organisation(s): Rudnidis d.o.o., Takko Fashion d.o.o.

Date: Dec 2016 - Jan 2017

Job Description: assisted in shop inventory for E-Leclerc and Takko Fashion Ljubljana.

Skills: organizational, manual dexterity.

Position: Event Assistant

Organisation(s): Hotel Palace Portoroz d.o.o.

Date: Mar 2016 - Jul 2017

Job Description: assistance in preparing hotel premises for various events and activities.

Skills: physical work, manual dexterity, communication, teamwork, attention to detail.



Position: Mentor & Manager

Organisation(s): Zavod 404, FIRST

Date: Feb 2017 - Oct 2018

Job Description: Organized, managed, and mentored all aspects of Team Slovenia at the FIRST Global Robotics Challenge

Skills: team management, leadership, organizational skills, strategic analysis, rapid prototyping, teaching & communication skills, design assessment, quality control, marketing & marketing research, outreaching, contract planning, travel planning, international correspondence, public speaking, public relations, design assessment, teambuilding, team planning, networking.

Position: Mentor and Foreign Advisor

Organisation(s): University of Guyana Robotics Club (UGRC)

Date: 2018 - 2021

Job Description: Assisted in organizing & managing various events:

Roboduino: 1-week workshop teaching Arduino basics to kids 7 - 15 years old, incl. Capstone

SEN: STEM Robotics Programme for Special Needs Schools (UGRC & GCOPD collaboration) Sr. mentor & curriculum designer. Special Educational Needs Research Programme in collaboration with the University of Guyana Robotics Club (UGRC) and the Guyana Council for Persons with Disabilities (GCOPD).

Project proposals: 3D printing, Equipment Inventory, Room Setup

Skills: inventory management, team building, asset management, networking, maintenance, quality assurance & control, legal work, team management and planning, meeting hosting & planning, student tutoring & mentorship, social media coordination, social media marketing, marketing management, strategy design, constitution drafting, event planning & management, project management, curriculum development, teaching skills, web content management, web conferencing, finance management.

Position: Event organizer & Staff for Days of Industrial Robotics

Organisation(s): Laboratory of Robotics, Faculty of Electrical Engineering, University of Ljubljana

Date: Oct 2019 - Jun 2020

Job Description: Event planning, event management, coordinating teams of students, planning presentations and competitions.

Skills: event management, planning and coordination.

Position: Event assistant

Organisation(s): Faculty of Electrical Engineering, University of Ljubljana

Date: Feb - Feb 2020

Job Description: event assistant at Open Career Day.

Skills: organizational, public speaking, event coordination.

Position: Teaching assistant

Organisation(s): Institute of Computer Science, University of Tartu

Date: Feb - Jul 2023

Supervision: Ulrich Norbisrath, PhD

Job Description: teaching assistant at Internet of Things spring course (6 ECTS)

Video Editing: [https://www.youtube.com/playlist?list=PLlppUpfgGsvkfAGJ38\\_mzQc1-Z7bNOgg](https://www.youtube.com/playlist?list=PLlppUpfgGsvkfAGJ38_mzQc1-Z7bNOgg)



Skills: content planning & coordination, video editing, IoT, Node-RED, troubleshooting, organizational, public speaking, tutoring.

Position: Teaching assistant

Organisation(s): Institute of Technology, University of Tartu

Date: Feb - Jul 2023

Supervision: Sandra Schumann, PhD candidate

Job Description: teaching assistant at Control Systems Engineering spring course (3 ECTS)

Skills: content planning, public speaking, troubleshooting, tutoring.

### **Contract Project Work Experience:**

Project Title: Using bioinformatics to analyse biological data

Organization(s): National Institute of Biology, Genialis d.o.o.

Description: project participation within the framework of national program: “a creative path to practical know-how”. Organize, queried, collected and sampled a database. Prepared parsing solution of collected information, compiling derived database of documented cave-dwelling organism.

Start, end date: Mar 2014 - Jan 2015

Key skills: Problem-solving, advanced organizational skills, Python (biopython, cython, iPython), JavaScript, HTML5, database parsing, NCBI database querying, software development, independent research, teamwork.

Project Title: Microtransat Slovenia

Organization: Zavod 404 d.o.o., University of Ljubljana

Description: a comprehensive analysis of meteorological data and best path navigation plot interpolation with shipping routes in the North Atlantic, using Google Earth Engine API, Python and JavaScript, with access to NOAA weather data. Resulting in a precise optimal travel route definition confirmed in the US Naval Academy publication. Additional assistance in vessel design, manufacturing and results publication at public events. Project website (deprecated): [Microtransat Challenge: Crossing the Atlantic with an autonomous sailboat](#)

Start, end date: Apr 2016 - Oct 2018

Key skills: organizational, teamwork, self-motivation, independent research, leadership, communication, Python, Google Earth Engine API, Javascript, NOAA weather database querying, naval navigation, path plotting, planning skills, argumentation skills.

Project Title: Smart Waste Management

Organization: Faculty of Public Administration, University of Ljubljana

Description: Project within the national framework: “Student projects for Social Benefit”. Pioneering research & development of a waste bin level sensor using LoRa communications and server-side operations. [Project summary \(Slovenian\) Smart Waste Management 2018 - 2020](#)

Start, end date: Feb 2020 - Jun 2020

Key skills: self-motivation, research, teamwork, team building, Arduino programming, brainstorming, organizational, empathy mapping, business modelling, market research, product development, product testing, responsibility, attentiveness, attention to detail, campaigning, surveying, social media marketing, server management, website management, mobile app quality control & testing.



## Additional Training, Competitions et al:

Training: *Dental Technician Apprenticeship / Hands-on Training*

Organization: Healthcare Centre Ljubljana, Vič-Rudnik unit denture laboratory

Date: June - July 2017

Description: Practical training in operational denture lab, assisting in the processing and preparing dentures for patients.

Skills: manual dexterity, patience, attention to detail, self-motivation, material handling, sanitation, customer service, wax sculpting.

Training: *Modelcraft*

Organization: Municipal Association of Societies for Technical Culture, Ljubljana

Date: 2004 - 2006

Description: working on model projects, built a balsa wood glider and a remote-controlled sailboat

Skills: manual dexterity, attention to detail, patience, self-motivation, material handling, critical thinking.

Course: *Guitar, piano and basic music theory*

Organization: Muzikaviva

Date: 2002 - 2005

Description: a guided, entry-level course in guitar and piano studies with an introduction to basic music theory

Skills: manual dexterity, music theory, entry-level guitar and piano, listening, basic music composition.

Course: *Winter Mountaineering*

Organization: Alpine Society Matrix of Ljubljana

Date: Feb 2011

Description: Winter mountaineering course for demanding snowy tours including avalanche rescue drill, safe climbing practices, high alpine survival training and cliff scaling.

Skills: stress management, patience, self-motivation, survival.

Course: *High School Research Project Course*

Organization: Gimnazija Jožeta Plečnika

Date: 2010 - 2012

Description: Research project work, subjects: physics, biology. Titled: "Photovoltaic future in Ljubljana", "Analysis of the presence of pollutants in Ljubljana's drinking water". Received recognition from the Association for Technical Culture of Slovenia.

Skills: self-motivation, research, Microsoft Office, public speaking, teamwork, communication, networking.

Competition(s): *German Reading Badge, Proteus Challenge, Math Kangaroo, Chess Challenge, Geography Challenge, Windsurf Regatta etc*

Organization(s): Gimnazija Jožeta Plečnika Ljubljana, Osnovna Šola Vrhovci

Date: 2004 - 2013

Description: active participation in various activities and competitions - climbing, language skills, biology competitions, cross country skiing challenges, orienteering, archery, slalom skiing, trek cycling, marathon, windsurfing, geography challenge, chess competition, mathematics challenge.

Skills: self-motivation, self-learning, patience, and time management.

Course: *Cisco CCNA: maintenance of small home and business networks*

Organization: IT Society, Gimnazija Jožeta Plečnika Ljubljana

Date: Feb 2009

Description: Cisco CCNA course: maintenance of small home and business networks

Skills: CCNA certified, self-motivation, self-learning, time management.

Organization: *Scouts Association of Slovenia*

Date: 2005 - Apr 2014

Description: a member of the Scouts Assoc. Of Slovenia, Order of the Marsh Tulips. Participant in National Orienteering Competition - Žaboboj Ljubljana.

Co-Organizer of night orienteering competitions. Organizer of a local campaign assisting elders at Žale municipal graveyard, a charity project (Nov 2013).

Skills: teamwork, event planning, physical labour, sports activities, time management, team management, event animation, manual dexterity, orienteering.

Organization: *Youth Wind Orchestra KGBL*

Date: 2008 - May 2013

Description: played bassoon in the woodwind band of KGBL with regular public appearances.

Skills: teamwork, bassoon, patience, time management, self-organized.

Certification: *IELTS*

Organization: British Council Ljubljana

Date: Feb 2015

Description: average score 7.5

Course: *German for Business*

Organization: Ljubljana Language Academy



Date: Dec 2016 - Feb 2017

Description: a course in the German language, a tailor-made program for businesses. B1 Rated: CEFR

License: *drivers license, cat B*

Organization: Government of the Republic of Slovenia

Date: Apr 2016 - Mar 2018

Description: drivers license, category B

Course: *Training for Certified Solidworks Associate*

Organization: Zavod 404

Date: Apr-Jun 2015

Description: completed training towards Solidworks Associate.

Course: *Certified LabView Associate Developer*

Organization: Preboj Student Society

Date: Mar-Apr 2016

Description: completed course for LabView Assoc. Developer (CLAD)

Course: *SMD component soldering*

Organization: Radiation and Optics Laboratory, Faculty of Electrical Engineering, Uni-Lj

Date: Apr - May 2017

Description: a course in specialized SMD component soldering and PCB development techniques, hosted by Prof. Matjaž Vidmar.

Hackathon: *Dragonhack 2017*

Organization: Computer Society Ljubljana

Date: May 2017

Description: participated and presented "Smart Workshop" prototype

Hackathon: *Dragonhack 2019*

Organization: Computer Society Ljubljana

Date: Nov 2019

Description: participated and presented "personal massage device" prototype

Hackathon: *BEST Hackathon 2019*

Organization: Student Society BEST Ljubljana

Date: Dec 2019

Description: participated and presented "Radiation Blockchain" prototype

Competition: *RoboChallenge 2019*

Organization: Days of Industrial Robotics 2019

Date: May 2019

Description: a challenge in learning and using ABB RobotStudio to plot and virtually demonstrate various industrial robot assembly line tasks

Event: *Roboduino 2019*

Organization: University of Guyana Robotics Club (UGRC)

Date: Aug 2019

Description: planned and hosted the first Arduino workshop for young students in Guyana.

Skills: self-motivation, teamwork, communication, event planning, event management, team management, time management, attention to detail, customer service, teaching, and curriculum development.

Competition: *Guyana National Accreditation Council Essay Competition*

Organization: Guyana National Accreditation Council

Date: Apr 2019

Description: "Given the demand for 21st-century skills, how should educators of post-secondary and tertiary institutions prepare their students for a diverse, global workplace?" tackled QOL issues

Skills: self-motivation, research, responsibility.

Training: *Global Entrepreneurship Exchange Programme*

Organization: University of Massachusetts Lowell, USA (GE2, UMASS Lowell, USA)

Date: July 2019

Description: an intense course in business arts

Skills: self-motivation, self-learning, teamwork, business model development, business analytics, pitching, public speaking, networking.

Competition: *Drone Challenge 2020*

Organization: Faculty of Electrical Engineering, University of Ljubljana; Laboratory for Automatics

Date: March - June 2020



Description: competition for autonomous DJI Ryze Tello Drone flight: obstacle course category  
Skills: self-motivation, research, responsibility. Python programming, Linux mint terminal, OpenCV.

Competition: *OpenSeventeen Challenge (O17)*

Organization: Citizen Cyberlab, Geneva, Switzerland

Date: Oct - Nov 2020

Description: O17 Challenge on Tackling Plastic Pollution; selected among hundreds of applicants globally to tackle plastic pollution issues.

Skills: research, public speaking, self-learning, teamwork.

Competition: *Global Entrepreneurship Exchange 2020 online business pitch competition*

Organization GE2, UMASS Lowell, USA

Date: Mar - May 2020

Description: part of winning team pitch in the technology category for the 2020 GE2 online competition in business pitches: technology category, "A 3D printing business", focusing on printing architectural models for the visually impaired in Guyana

Skills: public speaking, research, video production, pitch writing, teamwork, self-motivation, business model planning.

Course: *Space Mission Design*

Organization: the Technical University of Berlin

Date: Aug 2020

Description: Space Mission Design entry-level course, an intense 2-week workshop with an international team of students brainstorming ideas as part of capstone project: "LEOPARD", a low earth orbit debris removal satellite concept. Worked on Payload concept: using mini solar sails coupled with webs to capture and deorbit debris clutters in LEO.

Skills: self-motivation, research, teamwork, rapid problem-solving.

Course: *Certified Solidworks Associate - Mechanical Design*

Organization: University of Tartu, Institute of Technology, Intelligent Material Systems Lab

Date: Jun 2022

Link: <https://cv.virtualtester.com/qr/?b=SLDWRKS&i=C-G9SHOW7D3Y>

## 6) Consulting Record:

Celica Biomedical llc	2009 - 2021	Market Discovery, Logistics, Process Optimizations
4MK Marjan Kovač s.p	2014 - 2015	Logistics
Zavod 404	2015 - 2018	Strategy, Logistics, Quality Assurance

## 7) Awards & Honours received:

Award for Student Study of contaminants in Ljubljana's drinking water

Award for Student Study of photovoltaics and their applications in Ljubljana

FIRST, Mansa Musa Award, 2018

University of Tartu, Cum Laude

## 8) Current & Previous Organization Memberships:

University of Guyana Robotics Club (UGRC)	2018 - 2023	Foreign Advisor
Scouts Association of Slovenia	2005 - Apr 2014	Event Organizer
FIRST Global, Team Slovenia	Feb 2017 - Oct 2018	Team Manager & Mentor
Preboj Students Association	2015 - 2016	Member
Youth Woodwind Orchestra KGBL	2008 - May 2013	1st Bassoon
Assoc. of Societies for Tech. Culture	2004 - 2006	Member





Pirat Sailing Club	2007 - 2010	Member
Kayak Canoe Club Tacen	2011 - 2012	Member

#### 9) Teaching Experience:

Udemy	2020 - 2021	Slovenian For Exchange Students, online	Slovenian
UGRC	2020	SEN STEM Robotics Programme, online	STEM Basics
UGRC	2019	Roboduino	Arduino, Prototyping
Zavod 404	2016 - 2017	Public Training Workshops	3D printing & CAD
Zavod 404	2016 - 2018	Public School Workshops	Prototyping, STEM Basics
Zavod 404	2017 - 2018	FIRST Global Team Slovenia	Robotics, Prototyping
University of Tartu, Intelligent Material Systems Lab	2023		Control Systems Engineering
University of Tartu, Distributed Systems Lab	2023		Internet of Things

#### 10) Publications:

Udemy	2020	Slovenian For Exchange Students	Online Slovenian Language Course
Link: <a href="https://www.udemy.com/course/slovenian-for-exchange-students/">udemy.com/course/slovenian-for-exchange-students/</a>			
Cospar23	2023	Debris Removal Prototype - DeRP	Accepted to present at conference (withdrawn)
IAC23	2023	Debris Removal Prototype - DeRP	Accepted to present at conference
World Literacy Summit Needs in Guyana	2023	An Evaluation of a Hybrid STEM-Robotics Programme for Students with Special Springer Nature	
Link: <a href="https://www.worldliteracysummit.org/aiovg_videos/an-evaluation-of-a-hybrid-stem-robotics-programme-for-students-with-special-needs-in-guyana/">https://www.worldliteracysummit.org/aiovg_videos/an-evaluation-of-a-hybrid-stem-robotics-programme-for-students-with-special-needs-in-guyana/</a>			
iMeta23	2023	RoverXR: Educational Teleoperation Demo	Pending publication