Maksim Dziatlovich

maksimdziatlovich2023@u.northwestern.edu
dziatlovich.com dziatlovich (872) 810-5249

Education

Northwestern University Evanston, IL
BS/MS - Mechanical Engineering/Robotics; GPA: 3.83 *Sep 2019 - Jun 2023 (anticipated)*

Experience

Norris University Center, Northwestern University Evanston, IL
Production Assistant *Mar 2020 - Ongoing*

- Coordinated full-time production team on multiple occasions during event set-ups.
- By optimizing storage space organization, reduced average time taken for an event set-up by 15%.

Academic Support and Learning Advancement Center, Northwestern University Evanston, IL
Engineering Analysis Tutor *Nov 2021 - Ongoing*

- Multiple students saw a GPA increase of up to 8% after my guidance.
- Introduced problem-oriented learning into the students' workflow, resulting in more consistent results with roughly 25% less time spent on studies daily.

Criola, LLC Minsk, Belarus
Technical Consultant, Web Developer (Intern) *Sep 2020 - Jun 2021*

- By investigating the influence of competition (Avi-Prime, Ltd and Agroengineering, Ltd) in preservative sales, increased the market share in select product categories by up to 10%
- Reduced company expenses in preservatives for Q4 of 2020 by over 20% by securing better contracts with foreign preservative suppliers.
- Customer outreach increased by 30% after the first month of the website deployment

Projects

Self-driving Robot (Raspberry Pi + PIC32, Python, C) *Feb 2022 - Jun 2022*

- Designed and prototyped a car-like robot (Solidworks, Eagle, CAM)
- Implemented a feature extraction CV algorithm that correctly identifies the track in 95% cases, resulting in almost perfect track completion to failure ratio.

Northwestern Formula Car Battery Pack (Matlab, Solidworks, ANSYS) *Jan 2022 - Mar 2022*

- Designed a passively cooled open-air battery pack for a Northwestern Formula car.
- At 2.5kW power dissipation, achieved an average of 60 C surface temperature at cruise speeds.

Portal 2 Sentry Turret Replica (Solidworks, Eagle, Python, C) *Aug 2021 - Ongoing*

- Using in-game 3D model as a reference, designed a CAD model for a sentry turret for further 3D printing.
- Equipped with 3 motors (x,y,z) for each arm, driven by a Raspberry Pi that processes the image from the camera to identify a target and perform various actions (e.g. target tracking).

Research

Fluid motion at the interface boundary in pipe flow: Researched the rate of and the conditions for the flow of fluids on the solid-fluid interface in microscopic pipes (blood vessels, capillaries, etc.) The nature of the flow was identified to be closely related to the random walks (Chandrasekhar, 1943). Building up on the results of Kramers and Langer on the decay of metastable states, the solution for random walks was extended to 2D. (Dec, 2021)

Skills

Modelling and Simulation:	Siemens NX, Solidworks, Inventor, Fusion 360, AutoCAD, CoppeliaSim, Eagle
Manufacturing:	CNC Machining, 3D Printing, Casting, Injection Molding, Soldering, Rapid Prototyping
Programming and Frameworks:	Matlab, Python, HTML, CSS, JavaScript, Vue, ROS
Spoken Languages:	English, Russian, Belarusian, German (upper-intermediate), Japanese (intermediate)
Soft Skills:	Leadership, Event Management, Writing, Public Speaking, Time Management

Honors and Awards

Northwestern Scholarship, Davis UWC Scholar, Buffet Institute Grant *2019 - 2023*

Repeated Nominee for McCormick End-of-Semesters Honors *2019 - 2023*