Mladen Dinčić

MSc Mechanical Engineering student

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Education

Faculty of Mechanical Engineering, Niš

Master of Engineering - MEng *Oct. 2023 - present*

- Mechatronics and Control

Bachelor of Engineering - BEng (Hons) *Oct. 2019 - Oct. 2023*

- Mechanical Engineering (9.17)

Experience

Mikrotehnika d.o.o. (internship) *Jan. - Mar. 2023*

- Conducted CAD reverse engineering tasks to analyze and deconstruct existing designs for optimization and improvement
- Utilized SolidWorks to accurately recreate complex geometries and assemblies

Student demonstrator *Feb. - June 2022*

- Taught one full semester of "Engineering Graphics" course

Projects

Angle Detection Using Artificial Intelligence

- The development and implementation of a Python script leveraging Ultralytics YOLOv8 Pose Estimation in conjunction with OpenCV for the purpose of real-time angle calculation and visualization of detected human hand poses. The script is designed to efficiently process video streams, detecting and analyzing hand poses utilizing state-of-the-art deep learning techniques.

  https://github.com/mladen-dincic/angle-detection-ai

Custom Industrial Robotic Arm Camera Mount

- The collaborative effort focused on designing, optimizing, and 3D printing a custom camera mount for the UFACTORY xArm robot, replacing its standard side panel. Advanced additive manufacturing techniques were employed to meticulously craft components for seamless integration with the xArm. Emphasis was placed on optimizing the design to accommodate various gripping scenarios, enhancing the robot's versatility for collaborative tasks.

  https://grabcad.com/library/custom-ufactory-xarm-camera-mount

Sensor Fusion for Smart IoT Basketball System

- Analysis, design and development of a multi-sensor system for a smart basketball hoop, hardware and software integration of sensors on the smart basketball hoop.

Agricultural Autonomous Robot

- Functional parameterized redesign of the sub-assembly of the supporting structure of the battery for a Agricultural Autonomous Robot.

  https://grabcad.com/library/custom-battery-drawer

Personal Projects

Bedroom/Office Desk Legs Variations

- Developed diverse office desk leg variations to optimize functionality and aesthetics. Utilized SketchUp for precise modeling and V-Ray rendering for lifelike visualization, enhancing the functionality and aesthetics of diverse office desk legs variations.

  https://grabcad.com/library/bedroom-office-desk-legs-variations

Wardrobe Integration Experiment

- SketchUp and V-Ray experiment, where I've endeavored to seamlessly integrate two wardrobe designs from a catalog into my apartment space.

  https://grabcad.com/library/wardrobe-integration-experiment

About me

As a mechanical engineering student poised to become a master engineer, I bring a unique blend of technical prowess and artistic flair to the table. Beyond my passion for engineering, I find immense joy in expressing myself through art and design.

Drawing has always been a form of creative expression for me, and I dedicate much of my free time to sharpen my skills in product design sketches. Whether it's conceptualizing innovative mechanical systems or crafting sleek product prototypes, I thrive on the intersection of creativity and engineering precision.

In my quest for knowledge, I eagerly immerse myself in learning new software tools that complement my engineering expertise. From CAD software for 3D modeling to graphic design tools for rendering realistic prototypes, I embrace each opportunity to expand my skill set and stay abreast of industry trends.

Outside the realm of engineering, I draw inspiration from renowned furniture designers like Foureyes Furniture and Frank Howarth. Their ability to blend form and function, craftsmanship and innovation, resonates deeply with me, fueling my own creative aspirations.

In essence, I am a mechanical engineer with a passion for art, design, and innovation. Whether I'm sketching out my latest product idea or delving into the intricacies of CAD software, I am driven by a desire to push the boundaries of what's possible and leave a lasting impact on the world through my work.

Skills

Software: SolidWorks, SketchUp, Blender, AutoCAD, Matlab, Visual Studio Code, MySQL, Microsoft Word, PowerPoint & Excel, LaTeX, Adobe Photoshop

Programming Language: Python, Structured query language (SQL)

Languages

Native language **Serbian**, fluent in **English**