



# Sandor Dobrentei Msc.

## Mechanical Engineer

### CONTACT

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🏠 HUNGARY

### PROFILE

- ✓ **12 years** demonstrated history of working in **automotive, space and machine industry**
- ✓ **strong FEA skills** (HyperWorks, NASTRAN, Marc, PERMAS, Optistruct)
- ✓ **advanced programming skills in Fortran**
- ✓ **FEA analysis experience in structural static, dynamic, thermal and fatigue**
- ✓ **strong theoretical background in analytical and numerical methods**
- ✓ **MSc in Mechanical engineering, course of applied mechanics**
- ✓ **Advanced language skills in English**

### FEA SKILLS

static calculations

dynamic simulations

linear and non-linear models

steel structures

fatigue life prediction

topology optimization

coupled thermal-structural models

### WORK EXPERIENCE

#### QUADRATECH LTD.

*Hungary*

**08.2012 – 09.2019.**

#### SIMULATION ENGINEER FULL/PART-TIME EMPLOYEE

- Activity**
- FE simulations on exhaust systems for different load conditions including static loads and sine excitation
  - Temperature distribution calculations
  - Analysis –test measurement comparison

#### CAE-SERVICE LTD.

*Hungary*

**10.2017 – present**

#### SIMULATION ENGINEER, HEAD OF FEA

- Activity**
- Stress calculation on steel structures like conveyor crane frames, solar panel holders & industrial storing shelf
  - Fatigue life calculation of trailer wheel hub

#### PULI SPACE TECHNOLOGIES LTD.

*Hungary*

**09.2017 - present**

#### SIMULATION ENGINEER CONTRACT

- Project** *Lunar Rover, "Water Snooper"*
- Activity**
- Structural dynamic simulations on the rover body for sine and random excitation, RSA analysis
  - Shape optimization of frame parts

#### CALAMUS ELECTRIC PRIVATE LTD.

*Mumbai, IN*

**04.2019-08.2019**

#### SIMULATION ENGINEER CONTRACT

- Project** *CALAMUS ONE bicycle*
- Activity**
- Fatigue analysis of bicycle frame

#### AGRO LINE LTD.

*Hungary*

**01.2020 – 03.2020**

#### SIMULATION ENGINEER CONTRACT

- Activity**
- Non-linear simulation of deep drawing processes

### SOFTWARE SKILLS

NASTRAN

Hypermesh

HyperGraph

HyperView

Marc Mentat

Fortran

PERMAS

## SKILLS

<b>FEA</b>	<ul style="list-style-type: none"><li>• 10 years demonstrated history of working in automotive, aerospace and machine industry</li><li>• Good knowledge and understanding of background theory</li><li>• Deep knowledge in analytical methods of structural mechanics including elasticity and plasticity</li><li>• Programming skills for specialized result processing</li></ul>
<b>COMPOSITES</b>	<ul style="list-style-type: none"><li>• Basic knowledge in composite materials and failure models</li></ul>
<b>TOPOLOGY OPTIMIZATION</b>	<ul style="list-style-type: none"><li>• Topology optimization experience in OPTISTRUCT</li></ul>
<b>IT</b>	<ul style="list-style-type: none"><li>• Advanced user of Microsoft Office package</li></ul>
<b>TEAMWORK</b>	<ul style="list-style-type: none"><li>• Have been involved in several design projects which required high level of teamwork, and great spectrum of problem solving skills</li></ul>
<b>LANGUAGE</b>	<ul style="list-style-type: none"><li>• English C1</li></ul>

## EDUCATION

<b>BUDAPEST UNIVERSITY OF TECHNOLOGY AND ECONOMICS</b>	<p>PhD student</p> <p><b>2023-present</b> • Research field: Thermomechanical analysis of railway wheel-rail contact</p> <p>MSc. Applied Mechanics</p> <p><b>2009-2011</b> • Thesis: Stress Analysis of Heat Exchanger Pressure Vessel</p> <p>BSc. Mechanical Engineering</p> <p><b>2005-2009</b> • Thesis: Design of Plain Bearing for Hot Rolling Cylinder</p>
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## OTHER TRAININGS & QUALIFICATIONS

<b>2019</b>	<ul style="list-style-type: none"><li>• NAFEMS Non-linear FEA course</li></ul>
<b>2021</b>	<ul style="list-style-type: none"><li>• NAFEMS Advanced Dynamic FEA course</li></ul>
<b>2022</b>	<ul style="list-style-type: none"><li>• NAFEMS Fatigue &amp; Fracture Mechanics in FEA</li></ul>