Daniel Cordoneanu

Data naşterii: [redacted] | **Cetăţenie:** română | **Gen:** Masculin | [redacted] | [redacted]

EXPERIENŢA PROFESIONALĂ

01/10/2021 – ÎN CURS – Bucuresti, România
DEZVOLTATOR DE SOFTWARE – ADOBE

Lucrez la un proiect care implica dezvoltarea de aplicatii software pentru creativitate. Limbajele cu care se lucreaza sunt:

- C++
- Typescript/Javascript

Sunt necesare intelegerea conceptelor de grafica vectoriala si folosirea algebrei liniare pentru reprezentarea diferitelor forme in sisteme de coordonate diferite precum si intelegerea conceptelor de programare eficienta pentru asigurarea performantei in vederea redarii graficii computerizate la o frecventa inalta.

11/08/2020 – 23/09/2021 – Bucuresti, România
DEZVOLTATOR DE SOFTWARE – LUXOFT

Lucrez la un proiect care implica dezvoltarea de software pentru o unitate de testare a aparaturii radio. Limbajele cu care se lucreaza sunt:

- C++
- Qt/QML
- Linux
- Javascript

De asemenea, locul de munca implica analizare de spectru, transformata Fourier, procesare de semnal

23/08/2016 – 10/08/2020 – Bucuresti, România
DEZVOLTATOR DE SOFTWARE – WITTMANN BATTENFELD S.R.L

Dezvoltare de software in multiple limbaje de programare.
Aplicatii dezvoltate:

1. Aplicatie MFC pentru manipularea si imbinarea informatiilor venind de la un server OPC UA si un fisier YAML intr-un fisier JSON (C++, OPCUA, MFC, WinAPI, JSON, YAML)
2. Dezvoltarea si mentenanta unei aplicatii care controleaza un robot cartezian (C++, Linux, Python, JSON, OPC UA SDK, PubSub, SOAP, boost, Octave) - [Mar 2017 - Aug 2020]
3. Dezvoltarea si mentenanta unei aplicatii de interfata pentru interactiunea cu un robot cartezian (C++, .NET, OPC UA SDK, SOAP, boost) - [June 2017 - Aug 2020]
4. Dezvoltarea si mentenanta pentru o aplicatie de testare automata (.NET, NUnit, Telerik, BDDfy) - [Aug 2016 - Feb 2017]
5. Dezvoltarea unei aplicatii de parsare a unei pagini web si generarea de clase de programare pe baza informatiilor extrase (.NET, XML, XSD, XPath, JSON, JIRA/Confluence API) - [Sep 2016 - Nov 2016]
6. Dezvoltarea unei aplicatii de integrare continue pentru testarea codului compilat de un programator (.NET, Microsoft WCF services, NUnit Engine, JSON, Javascript, jQuery, HTML, Bootstrap) - [Nov 2016 - Feb 2017]

Cunostinte folosite: functionarea si interactiunea sistemelor mecatronice (motoare electrice, controlul lor), problema de cinematica directa/indirecta, parametrii Denavit–Hartenberg. Acumularea de cunostinte in domeniul industriei de plastic, tendinte de dezvoltare, protocoale de comunicare, industrie 4.0.

Informare şi comunicatii | Bucuresti, România

16/12/2015 – 20/08/2016 – Bucuresti
DEZVOLTATOR DE SOFTWARE – ENDAVA

Dezvoltare de site-uri web.
Tehnologii folosite:

- Perl
- Drupal
- HTML
- CSS
- Javascript

Bucuresti, România

01/12/2014 - 15/12/2015 - Bucuresti, România
SPECIALIST COMPETENCE - IPSOS INTERACTIVE SERVICES

Dezvoltare de module si asigurarea suportului pentru acestea, oferite departamentului de productie
Tehnologii:

- IBM SPSS Dimensions
- Javascript
- jQuery
- HTML
- CSS
- MSSQL
- Visual Basic / Visual Basic for Applications
- PHP

Bucuresti, România

23/10/2013 - 01/12/2014 - Bucuresti, România
PROGRAMATOR - IPSOS INTERACTIVE SERVICES

Implementarea chestionarelor online
Tehnologii:

- IBM SPSS Dimensions (similar to Visual Basic)
- Javascript
- jQuery
- HTML
- CSS

Bucuresti, România

EDUCAŢIE ŞI FORMARE PROFESIONALĂ

01/10/2017 - ÎN CURS - Bucuresti, România
DOCTORAND - Universitatea "Politehnica" Bucureşti

- Achizitie si procesare de semnal
- Filtrari de semnal si extragere de caracteristici
- Algoritmi de invatare automata pentru diagnoza defectelor
- Mentenanta predictiva
- Caracterizarea dinamica a defectelor mecanice/electrice

Domeniul (domeniile) de studiu

- Inginerie mecanica

Lucrarea de diplomă: Dezvoltarea unui sistem inteligent de diagnzoa a defectelor in sisteme mecatronice

Nivelul 8 CEC

01/10/2013 - 15/07/2015 - Bucuresti, România
MASTER MECATRONICA AVANSATĂ - Universitatea "Politehnica" Bucureşti

Am invatat despre:

- Programare
- Modelarea si simularea diferitelor sisteme mecatronice

Teza de master:
Controlul vocal al unui robot mobil. Am folosit:

- MFCC
- Retele neuroanle
- Dynamic time warping
- Controlul unui robot mobil

Domeniul (domeniile) de studiu

- Inginerie mecatronică

Lucrarea de diplomă: Controlul vocal al unui robot mobil

Nivelul 7 CEC

01/10/2009 - 13/07/2013 - Bucuresti, România
DIPLOMA DE LICENTA MECATRONICA SI ROBOTICA - Universitatea "Politehnica" Bucureşti

Cunoştinţe acumulate:
- Programare
- Mecanică
- Electronică
- Teoria sistemelor şi inteligenţă artificială
- Robotica

Lucrare de licenţă:
Mişcarea unui mecanism pe ritmul unei melodii.
Programarea unui robot mobil pentru urmarirea liniei si depasirea obstacolelor.
Am luat parte in :
- comunicări ştiinţifice
- "Traian Lalescu" - concurs de matematică - locul 5
- Competiţii de robotică - locurile 2 si 5

Domeniul (domeniile) de studiu
- Inginerie mecatronică şi robotică

Lucrarea de diplomă: Păpuşă dansatoare pe ritmul unei melodii

Nivelul 6 CEC

COMPETENŢE LINGVISTICE

Limbă(i) maternă(e): **ROMÂNĂ**

Altă limbă (Alte limbi):

	COMPREHENSIUNE		VORBIT		SCRIS
	Comprehensiune orală	Citit	Exprimare scrisă	Conversaţie	
ENGLEZĂ	C2	C1	B2	C1	C2
FRANCEZĂ	A1	A2	A1	A1	A2

Niveluri: A1 şi A2 Utilizator de bază B1 şi B2 Utilizator independent C1 şi C2 Utilizator experimentat

PUBLICAŢII

A stopping condition to empirical mode decomposition based on the goertzel algorithm for detecting frequency-based faults

U.P.B. Sci. Bull., Series D, Vol. 83, Iss. 4, 2021, ISSN 1454-2358
https://www.scientificbulletin.upb.ro/rev_docs_arhiva/rezf2c_993614.pdf - 2021
Fault diagnosis has received a lot of attention from the research community recently. Empirical mode decomposition is one of the signal processing methods used in fault diagnosis that is self-adaptive and can be used in nonstationary and nonlinear signals without having to know anything about the signal before decomposing it. This method decomposes a signal into a given maximum number of signals. One of these signals can give information on whether a certain fault is present, rendering the rest of the decomposition useless. This paper proposes a new end condition for the decomposition process for monitoring frequency-based faults.

Bearing fault diagnosis using the Kolmogorov-Smirnov test on frequency features extracted using the Goertzel algorithm

DOI: 10.1088/1757-899X/997/1/012041
https://www.researchgate.net/publication/347971780_Bearing_fault_diagnosis_using_the_Kolmogorov-Smirnov_test_on_frequency_features_extracted_using_the_Goertzel_algorithm - 2020
Fault diagnosis has been a field of interest during the last period, especially for predictive maintenance, given the advances in artificial intelligence and the available state of the art algorithms for machine learning, in a great number of libraries. In the industrial sector, fault diagnosis plays a very important role in order to avoid as much as possible downtime. Usually, rotating motors are involved in the actuation of the machines used in industry; therefore, bearings are an important part of the kinematic chain. The faults of the defective bearings can be detected within the frequency spectrum, at particular frequencies, which can be mathematically computed on the geometrical bases. Moreover, the use of the Goertzel algorithm allows the extraction of the specific features for these frequencies and their harmonics. The paper proposes a new approach of these features use for creating an initial data distribution, in order to be compared with future acquired data by use of the Kolmogorov-Smirnov test, as a good-fitness test for the new data.

Mathematical Modeling of Torsional Vibrations in a Gearbox with Faults Using Distributed Parameters and Bond Graphs

DOI: 10.1007/978-3-030-53973-3_11
https://www.researchgate.net/publication/343035714_Mathematical_Modeling_of_Torsional_Vibrations_in_a_Gearbox_with_Faults_Using_Distributed_Parameters_and_Bond_Graphs - 2020
Vibrations are important in machinery since they present the current state of the system and can indicate certain events (like the presence of a fault). To use the vibrations as indicators for fault detection, one must get the system's ideal response to certain frequencies. To achieve that, mathematical modelling is of great importance. In this paper it is presented a way to model and simulate the response of a gearbox given an input and the presence of a fault. The mathematical approach is based on the distributed parameter model of the shafts and the simulation is done using Bond graphs which is a great way to integrate systems of different nature (electrical, mechanical) in the same model. This approach has the advantage that it is easy to use and integrate in any model and the simulation of faults can greatly reduce costs needed with experimentation.

An Approach on Predicting a Machine's Effector Vibrations Based on Motor Vibrations Using a Regression Artificial Neural Network

DOI: 10.1007/978-3-030-53973-3_12
https://www.researchgate.net/publication/343031655_An_Approach_on_Predicting_a_Machine's_Effector_Vibrations_Based_on_Motor_Vibrations_Using_a_Regression_Artificial_Neural_Network - 2020
Vibrations are mechanical movements which can offer valuable information about the state of a machine. Being able to simulate and predict this type of signal is of great importance in fault diagnosis and condition monitoring of a machine since vibrations are considered the most used and most efficient way to detect and diagnose a fault. Since simulating vibrations can be a difficult task given the non-linear equations that need to be solved, machine learning algorithms can offer a great solution to extract information from data and predict an outcome close to reality given an input signal. Obviously, the input signal is processed, normalized, and fetched to the neural network. In this paper, a regression neural network is used for predicting the vibrations of an effector of a one-dimensional system which moves in only one direction. The vibrations are measured in the direction of the effector's movement while the vibrations of the motor are acquired by the motor's support.

An Approach of Extracting Features for Fault Diagnosis in Bearings Using the Goertzel Algorithm

DOI: 10.1007/978-3-030-26991-3_16
https://www.researchgate.net/publication/334592728_An_Approach_of_Extracting_Features_for_Fault_Diagnosis_in_Bearings_Using_the_Goertzel_Algorithm - 2020
Fault diagnosis has been a field of interest in the latest period, especially predictive maintenance, given the advances in artificial intelligence and state of the art machine learning algorithms available in a great number of libraries. In the industrial sector, fault diagnosis plays a very important role in order to avoid as much as possible downtime. Usually, rotating motors are involved in the actuation of the machines used in industry; therefore bearings are an important part of the kinematic chain. Given that faults in bearings can be detected in the frequency spectrum at frequencies that can be mathematically computed based on geometry, this paper proposes an approach to extract features for machine learning algorithms based on the computed frequencies and their harmonics. Since only a few frequencies are needed, the Goertzel algorithm can be used instead of the discrete Fourier transform to give a computational boost and have the feature extraction algorithm available on embedded systems.

A Review of Fault Diagnosis in Mechatronics Systems

DOI: 10.1007/978-3-319-96358-7_18
https://www.researchgate.net/publication/326466390_A_Review_of_Fault_Diagnosis_in_Mechatronics_Systems - 2019
Fault diagnosis gets increasing importance in today's production environment and with the advancements in the field of artificial intelligence, researchers look for new ways to keep a system away from faults, that would interrupt the production. In recent years, many papers were written regarding this subject especially regarding predictive maintenance and fault diagnosis. This paper presents recent works that expose new methods for intelligent fault diagnosis. This step is important for future research in order to have a better understanding of state of the art algorithms and look for ways to improve the existing fault diagnosis approaches. The focus will be on electrical systems and actuators and manipulating systems (robots), production experience showing that the mechanical parts are the most exposed to production-ending faults. That's why most of the observer systems are using vibrations as the main data for their algorithms, but also other measurements can provide useful information about the condition of a system.