



Gideon Gwanzuwang Dankat

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● WORK EXPERIENCE

19/04/2023 – CURRENT Bucharest, Romania

APPRENTICE - MANUFACTURING ENGINEERING SPECIALIST (METHODS ENGINEER) GENERAL ELECTRIC POWER

- Preparing Standard Operating Procedures (SOP) for manufacturing processes
- Launching purchase requisition orders and operating processes needed for manufacturing in Enterprise Resource Planning (ERP) - SAP
- Completed a course titled LEAN for manufacturing processes.

Business or Sector Manufacturing |

Website <https://www.ge.com/gas-power/services/service-centers/bucharest-romania>

10/2019 – 06/2021 Bucharest, Romania

UNIVERSITY TEACHING ASSISTANT NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY POLITEHNICA BUCHAREST

- Assisting the professor with laboratory and seminar classes;
- Preparation and grading of exams;

17/12/2017 – 30/09/2019 Bucharest, Romania

ELECTRONICS ENGINEER HAYNESPRO DATA

I worked in the Electronics CWD - "Configuration Wiring Diagrams" department and my main responsibilities is analysing and entering the automotive technical data from OE documentation into the workshopData database.

Website <https://www.haynespro.com/>

20/06/2016 – 18/08/2016 Bucharest, Romania

INTERN ELECTROTOTAL

Website <http://www.electro-total.ro/>

● EDUCATION AND TRAINING

01/10/2019 – CURRENT Bucharest, Romania

PHD National University of Science and Technology Politehnica Bucharest.

Website <https://www.electro.upb.ro/> | **Field of study** Electrical Engineering

25/09/2017 – 07/2019 Bucharest, Romania

MASTERS DEGREE CERTIFICATE National University of Science and Technology Politehnica Bucharest

Core Courses:

- Interconnecting devices and interfaces;
- Power Electronics;

- Mechanics and Dynamics of Vehicles;
- Management in System Engineering;
- Electric Propulsion Systems for Vehicles;
- Sensors and Transducers for Vehicles;
- Modeling, Simulation, Programming and Testing of Integrated Electromechanical Systems;
- Numerical simulations of embedded systems;
- Vehicle Architecture;

Specialization: Integrated Electrical Systems in vehicles.

Website <https://www.electro.upb.ro/> | Field of study Electrical Engineering

01/10/2013 – 06/2017 Bucharest, Romania

BACHELOR OF ELECTRICAL ENGINEERING CERTIFICATE National University of Science and Technology Politehnica Bucharest

Core courses:

- Static conversion;
- Vector control;
- Computer assisted graphics;
- Numerical methods;
- Signal processing;
- System architecture and configuration;
- Electronics;
- Mathematical analysis;
- Electrotechnical materials;

Specialization: Power electronics and data acquisition.

Website <http://www.electro.pub.ro/> | Field of study Electrical Engineering

10/2012 – 06/2013 Bucharest, Romania

ROMANIAN LANGUAGE CERTIFICATE Faculty of Letters

08/2004 – 06/2010 Kaduna, Nigeria

HIGH SCHOOL CERTIFICATE Command Secondary School

- Mathematics
- English
- Chemistry
- Physics
- Biology

● LANGUAGE SKILLS

Mother tongue(s): **ENGLISH**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ROMANIAN	C1	C1	B2	B2	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● ADDITIONAL INFORMATION

PUBLICATIONS

Influence of Accelerated Aging on the Electrical Resistance of Copper Contacts with ZrCu Discontinuous Thin Layer

– 2023

The degradation of electrical contacts is closely related to contact resistance. Contact resistance in electrical connections is a consequence of numerous factors interlinked, e.g., oxidation, temperature, mechanical vibration, narrowing of electrical current as it passes through the interface, and other contaminants from the surrounding environment. This paper presents an experimental study of the degradation of electrical contacts by performing accelerated thermal aging of fabricated physical samples and evaluating the contact resistance in the low current and voltage range. The electrical contact sample used in this study was prepared by depositing ZrCu (Zirconium Copper) alloy coatings on a copper-clad laminate using cathodic arc deposition. The experimental results indicate that the contact resistance increases as the contacts degrade over time and the size of the contact load improves the total contact area between the samples.

Link <https://ieeexplore.ieee.org/document/10108359>

Computation of the Electrical Resistance of a Low Current Multi-Spot Contact – 2022

In high complexity electrical systems such as those used in the automotive industries, electric connectors play an important role. The automotive industry is gradually shifting its attention to electric cars, which means more electrical connectors for sensors and data collection. A fault in connectors for sensors used in a vehicle can cause drastic damage to capital equipment and, in the worst case, the loss of life. The studies of faults or degradation of electrical contacts are essential for safety in vehicles and various industries. Although such faults can be due to numerous factors (such as dust, humidity, mechanical vibration, etc.) and some yet to be discovered, high contact resistance is the main factor causing erratic behavior of electrical contacts. This paper presents a study on the computation of electrical contact resistance of two metal conductors (in the form of a disk) with analytical relations and a numerical computation model based on the finite element method (FEM) in COMSOL Multiphysics. The contact spots were considered to have a higher electrical resistivity value (ρ_{cs}) than those of the two metal conductors (ρ_{Cu}). Studies such as the one in view that is carried out on a microscopic level are often difficult to investigate experimentally. Therefore, with the help of a simplified numerical model, the consequences of the degradation of electrical contacts are investigated. To validate the FEM model, the numerical results were compared to those obtained from analytical models.

Materials, Volume 15, Issue 6 (March-2 2022) – <https://www.mdpi.com/1996-1944/15/6>

Link <https://www.mdpi.com/1996-1944/15/6/2056/htm>

ANALYTICAL AND NUMERICAL COMPUTATION OF ELECTRICAL RESISTANCE IN A LOW CURRENT MULTI-SPOTS METALLIC CONTACT

– 2022

The problem concerning the specific resistance of electrical contacts is still of particular importance, especially in high-complexity electrical systems or critical operation devices such as those used in the automotive industry. A huge number of studies have been conducted over time in order to develop accessible models that allow the calculation of the contact resistance at the interface between two conductors taking into account the discontinuity of the contact surface. This paper presents a study on the computation of the contact resistance of two metal conductors with analytical relations and, respectively, using numerical computation models. This paper aims to examine the differences between the results obtained using analytical and numerical models based on the finite element method (FEM) in COMSOL Multiphysics.

Link <https://journal.iem.pub.ro/apme/article/view/71>

Influence of Ageing on Electrothermal Condition of Low Current Contact – 2021

Electrical contacts' main function is to close an electrical circuit securely transporting current throughout the contact surface. Electrical contacts range from high, medium to low current depending on their usage. Power transmitting electrical contacts are expected to transmit a current of a significant intensity whereas the signal transmitting electrical contacts usually transmit low currents. However, electrical contacts undergo gradual change at the interface due to the action of temperature, corrosion, mechanical discontinuities induced by vibration etc. all these disturbing factors lead to the aging and degradation of the contact. In some cases where the contact resistance increases due to electrical losses, the local temperature may increase, thereby accelerating contact degradation. This paper presents a numerical

analysis on the variation of temperature of a simple low current contact model having a thin oxide film layer at the interface which serves as the ageing factor using finite element method (FEM) in COMSOL Multiphysics.

2021 12th International Symposium on Advanced Topics in Electrical Engineering (ATEE)

Link <https://ieeexplore.ieee.org/document/9425242>

NUMERICAL SIMULATION OF THERMAL CONDITION OF A LOW CURRENT ELECTRIC CONTACT – 2020

The electrical and electronic systems used in current vehicles are increasingly complex. The number of components of these systems is growing day by day and the networks of electrical conductors and connectors are more and more complex. Therefore, the electrical contacts established with special connectors play a very important role in the proper operation of these systems. Electrical contacts may include various sub-systems or wiring harnesses connected via detachable connectors which depend on physical contacts for the electrical connectivity. Electrical contacts range from high, medium to low currents depending on their usage. However, in real-life condition, electrical contact characteristics, especially at the interface, undergoes a gradual change which can be due to corrosion, temperature variation, aging, strained harnesses, discontinuities induced due to vibration, etc. These changes introduce additional parasitic circuits in the system. Moreover, in some cases where the contact resistance increases due to electrical losses, the local temperature may increase, thereby accelerating contact degradation. This paper presents a numerical analysis of the variation of temperature of a simple low-current contact model having a thin oxide film layer at the interface which serves as the aging factor using the finite element method (FEM).

ELECTRIC MACHINES, MATERIALS AND DRIVES PRESENT AND TRENDS SME'20, EDIȚIA A XVI-a

Link <https://journal.iem.pub.ro/apme/article/view/202>

DRIVING LICENCE

Driving Licence: AM | 31/03/2021 – 29/03/2031

Driving Licence: B1 | 31/03/2021 – 29/03/2031

Driving Licence: B | 31/03/2021 – 29/03/2031

ORGANISATIONAL SKILLS

Organisational skills - Ability to work in a team;
-Ability to take decisions;
-Good organisational skill and attentive to details.

COMMUNICATION AND INTERPERSONAL SKILLS

Communication and interpersonal skills ■ Exceptional **communication and interpersonal** skills: Able to relate with people, good listening skills, and finding solutions

JOB-RELATED SKILLS

Job-related skills

- Certificate for participation in the course "AUTO SENSORS AND ACTUATORS" organized by the school for Auto Mechanics AD AUTO TOTAL, courses certified by Eure! car Autodistribution international.

-Certificate for participation in the course "CAN-BUS REȚELE MULTIPLEXATE DE COMUNICATIE" organized by the school for Auto Mechanics AD AUTO TOTAL, courses certified by Eure! car Autodistribution international.

-Certificate of achievement "Junior Technical Author" responsible for analyzing and entering the automotive technical data from OE documentation into the workshop data database, in accordance with the HaynesPro guidelines.

* Core Competencies:

-A degree in electronic engineering;

-Good verbal and written communication skills in the English Language;

-Automotive knowledge;

-Analytical capabilities in combination with strong computer skills in a Windows-based environment and familiarity with using computer databases.

-Competent to use MS-Visio and WIM to create diagrams and upload them.

