Raziel Raz Yaakov - Curriculum Vitae

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**Education**:

2017-2022: Afeka Academic College of Engineering in Tel Aviv, Israel. Status: Final year of studies towards a B.Sc. degree in the Mechanical Engineering Department, specializing in Materials and Energy Engineering (combined track).

**Final project in engineering**: Exploring the effect of printing parameters on printed aluminum alloy (AM), with emphasis on mechanical properties and structural integrity analysis using a micro-CT system, with data analysis and conclusions.

2010-2011: Emissary work in Chabad Houses around the world, four months in India and one year in Venice, Italy

2008-2009: Torah studies at the Chabad yeshiva of the Lubavitcher Rebbe, New York, USA

2005-2007: Torah studies at the Chasedi Chabad Lubavitcher Yeshiva, Safed, Israel

**Employment and Military Experience**

**Israeli Air Force,** Tel Nof Base, Aerial Maintenance Unit, 6 years

**2019 – Present**: Research lab engineer and research assistant at the Afeka Academic College, Center for Material and Process Engineering. The position includes: conducting failure investigations for multiple civilian, defense, and medical companies; performing scans and analysis of CT results with emphasis on metal printing materials; building three-dimensional models of scanned items; performing flaw analyses; investigation of material properties of printing materials with diverse characteristics (i.e., aluminum, titanium, stainless steel); printing and finishing treatments for industry companies; metallographic and mechanical tests of materials; communication with industry customers.

**Air Force, Tel Nof Base, Aerial Maintenance Unit, Permanent Service:**

**2018-2019:** Specialization in surface treatment and finishing for aviation and aircraft equipment and parts.

**2017-2018:** Service in the department responsible for coating metallic materials such as steel and aluminum; specialization in anti-corrosion treatments, such as cadmium immersion plating, cadmium brush plating, chemical browning, anodizing and Alodine, metal recovery processes, chromate conversion coatings, surface preparation processes, etc.

**2013-2017**: Permanent service: Level 4 in Aerial Maintenance Unit, specializing in composite materials, parts restoration and utilization, repairing fire damage, integrating new platforms, designing molds, and manufacturing parts.

**2012 - 2013:** Recruitment to the Air Force as an aircraft structure mechanic, specializing in structural repair of metals and composite materials.

**2011 – 2012:** Substitute teacher at the Chabad Elementary School in Netanya, Israel.

**2008-2006:** Controlled technical work at the Carmel wineries in Zichron Yaakov, Israel (during harvest seasons) as a machine (press) operator in the production lines, preparing production lines to transfer wine for storage in barrels and containers.

**Training in the Israel Defense Forces:**

- Aircraft structures technician certification (1753) - Levels 7, 9

- Composite materials certification - Level 10

- Military certification for painting

- Military certification for coatings

**Languages:**

Hebrew: native language

English: working proficiency

**Skills and interests:**

SolidWorks Mechanical Drawings for designs, engineering graphics, and mechanical simulations

Volume Graphics: Structural integrity analyses, Nondestructive Testing (NDT) using micro-CT

RX Solutions: Building 3D models from 2D radiography images

MATLAB: Assistance for calculations in mechanical design

**Personal abilities and traits:**

Independent learning, teamwork, creativity, engineering thinking, critical thinking, systemic vision, solving engineering problems, planning and conducting experiments, face-to-face and written communication skills.