Salman Razavi, Materials Engineer, Ph.D.

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SUMMARY OF SKILLS

- Over 10 years of experience in leading/participating in technical projects with industrial/research scope.
- 8 years of experience in methodical assessment of failure of engineering materials.
- Extensively familiar with different classes of engineering materials and their service applications, metallurgical, chemical and physical properties.
- Proficient in statistical assessment tools such as ANOVA, Weibull distribution and risk assessment analysis applicable to reliability and failure of engineering parts.

EMPLOYMENT HISTORY

- **Research Engineer (**CANMET Mater Tech Labs, NRCan, Hamilton, ON, Canada**)** May 2017-present
  - Follows ASTM standards to evaluate mechanical reliability of thermoelectric materials and their soldered/brazed joints.
  - Applies statistical methods to report to stakeholders the failure probability functions, risk assessment and the reliability of the parts.
  - Evaluates physical/microstructural characteristics of parts and correlates them the service performance.
  - Practices failure analysis based on mechanical testing, fractography and various microscopy techniques.

- **Failure Analyst, Post-Doc Fellow (**Dept Mech Eng, UofS, Saskatoon, SK, Canada**)** Nov 2014-May 2017
  - Analyzed mechanical failure of pipeline steels/submerged arc-welded parts exposed to simulated crude oil corrosive environment.
  - Introduced crack arrest assessments and documented recommendations to pipeline producers.
  - Developed a process to control damage caused by irradiation in boronized steels.
  - Mentored junior researchers, supervised mechanical/metallurgical tests and microstructural analyses.

- **Materials Engineering Researcher (**Dept Mech Eng, UofS, Saskatoon, SK, Canada**)** Jan 2011-Oct 2014
  - Extensively performed metallographic/microscopic characterization of steel and aluminum alloys.
  - Published several reports on improving corrosion/failure characteristics of steel/aluminum parts.
  - Analyzed mechanical failure caused by hydrogen induced cracking in X60/X70 pipeline steels.
  - Evaluated corrosion mechanism of aluminum alloys caused by hot humid environment.

- **Supervisor of Nano-Technology Lab** (MERC, Karaj, Iran) June 2010-Jan 2011
  - Equipped the lab with required instruments/chemicals, improved technical services and provided technical/safety trainings for lab users.
  - Performed metallurgical characterization and chemical processing for internal and 3rd party costumers.

- Managed/collaborated in preparation of technical reports, recommendations and lab safety protocols.

- **Research Engineer (**MERC, Karaj, Iran**)** Sept 2008-Mar 2010
  - Planed, initiated, and researched materials in complex nano-composite systems that required development and application of new experimentations/techniques/equipment.
  - Provided technical support in the development and transfer of powder metallurgy (PM) technologies with a primary focus on failure analysis of aluminum and steel parts.
  - Organized, documented and transferred results of experiments, trials and product performance investigations conducted for stakeholders.

- **Metallurgist** (Kaveh Industries, Mashhad, Iran) Sept 2007- Aug 2008
  - Performed metallurgical evaluation of steel and titanium products including mechanical tests, heat treatments and characterization.
  - Assisted in the verification of finished parts and approving fitness for use for intended application.
  - Prepared analytical reports/fact-sheets/recommendations and communicated with other departments on quality and products.

- **Quality Control Specialist** (Fardsaz Toos, Mashhad, Iran) Mar 2007-Aug 2007
  - Performed quality assurance on manufactured car-cable assemblies according to standard blueprints and internal SOPs.
  - Assisted in improvement of the production line and preparation of monthly reports.
  - Trained employees in inspections, reporting and statistical techniques.
  - Supported the execution of validation studies by collecting data and analyzing results.

EDUCATION

Ph.D, Mechanical Engineering, University of Saskatchewan, SK, Canada 2014
M.Sc, Materials Engineering, MERC, Iran 2007
B.Sc, Extractive Metallurgy, Kerman University, Iran 2004