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Herman Grewal

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SUMMARY OF QUALIFICATION

- 2 years of diverse mechanical engineering experience in aerospace industry at Pratt & Whitney Canada
- Established mechanical design knowledge with 40+ industry projects with 100+ production level drawings & models released
- Experienced designing for manufacturability, cost & weight while validating designs with FEA & tolerance analysis
- Managed multiple concurrent projects in collaborative cross-functional team environment
- Highly analytical with numerous awards for published research and academic excellence in mechatronics engineering

EDUCATION

UNIVERSITY OF WATERLOO

B.A.Sc in Mechatronics Engineering
Expected Apr 2019 | Waterloo, ON
Ranked in Top 10% of Class
Dean's Honour List: 3A, 3B
Cum. GPA: 3.92 / 4.0

SKILLS

DESIGN

CATIA V5 • SolidWorks • AutoCAD
CADAM • Inventor

ANALYSIS

ANSYS • SolidWorks Simulation
CATIA V5 Generative Structure Analysis

MANUFACTURING

GD&T • Tolerance Analysis • DFA/DFM
Machining • Injection Molding
3D Printing • Welded Assy •Forgings
Sheet Metal Forming • Castings

PRODUCT MANAGEMENT

ENOVIA VPM • 3DEXPERIENCE PLM
SharePoint • Git • Slack

SOFTWARE

C • C++ • MATLAB • Simulink • VBA

RESEARCH

Image Processing Cancer Research
• Developed edge detection algorithm
• Processed & tested datasets in MATLAB
• Abstract publication at Imaging Network Ontario Symposium 2016

AWARDS

Richard Matzeg Memorial Scholarship
University of Waterloo, 2017
President's Research Award (x2)
University of Waterloo, 2016, 2015
Aspiring Engineer Scholarship
Professional Engineers Ontario, 2015
President's Scholarship of Distinction
University of Waterloo, 2014

EXPERIENCE

View Full CV

MECHANICAL DESIGNER | Pratt & Whitney Canada

Jan 2018 - Aug 2018, Sep 2016 – Dec 2016 | Toronto, ON

- Drafted 2D detailed engineering drawings & 3D models using CATIA V5
- Proficiency in ENOVIA V5 & V6 for version control, BOM management, change management & approval routes

Experimental Bearing Housing Test Design Project
- Worked on bearing housing experiment project for vibration reduction
- Designed mating features for assembly, calculated fits & applied GD&T

Composite Clamp Design Project
- Redesigned machined aluminum clamps to injection molded composite clamps
- Consulted Manufacturing & Materials for new drawing notes & GD&T controls
- Drafted memo outlining cost & weight savings with documented FEA analysis

Partner Interface Control Design Project
- Conducted complex 10+ parts axial & radial tolerance stack ups
- Participated in international design review meetings with partners

Integrated Bladed Rotor(IBR) Cost Optimization Project
- Worked to reduce manufacturing steps for flash welded IBR
- Reduced inspection costs by modifying design features and GD&T controls
- Presented design alternatives to internal stakeholders

TECH PUBS ANALYST | Pratt & Whitney Canada

Apr 2017 – Aug 2017 | Toronto, ON

- Created exploded assembly illustrations using CATIA V5 & Auto-Trol TI s/w for Service Bulletins (SB) & Illustrated Parts Catalogues (IPC) to S1000D standard
- Communicated markups with global offshore team using MS SharePoint
- Delivered on strict deadlines through job tracking & time management

WEIGHTS ANALYST | Pratt & Whitney Canada

Jan 2016 – Apr 2016, May 2015 - Aug 2015 | Toronto, ON

- Investigated manufacturing scatter for 6 production engine programs to validate customer commitments
- Performed statistical analysis and risk models using Six Sigma methodology
- Conducted rotor burst analysis for critical rotating parts per FAA standards

PROJECTS

View Full Portfolio

AUV | Sep 2017 - Dec 2017 | Waterloo, ON

- Designed PVC pipe frame, 3D printed propeller covers, sensor supports & seals
- Conducted simulated and empirical testing to validate hardware & prototypes
- Coordinated with electrical & software leads to streamline product integration

BRIDGE DESIGN | Apr 2016 – Jul 2016 | Waterloo, ON

- Planned and performed physical stress tests to evaluate prototype designs
- Conducted FEA on truss elements using ANSYS AIM & SOLIDWORKS models