Josh Garry
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(61) 492 877 393

Joshua Garry

Mechanical Engineer

About Me I am a soon to be graduated mechanical engineer (bachelors with honors) from USQ. I am a skilled draftsman, ERP coordinator and programmer. I have focused my recent development around utilizing my love of programming to complement my engineering education.

Education

2018 – 2023, University of Southern Queensland

Bachelor of Engineering Honors (Mechanical)

Courses studied;

- Intro Eng & Spatial Sci Appls
- Intro to Engineering Design
- Engineering Statics
- Engineering Materials
- Mechatronics & Automation
- Advanced Engineering Maths
- Stress Analysis
- Eng Simulations & Comp
- Design of Machine Elements
- Mechanical Practice 2
- Materials Technology
- Professional Practice 1
- Mech & M'tronic System Design
- Professional Practice 2
- Production Engineering
- Mechanical Practice 3
- Engineering Management
- Advanced Thermofluids
- Research Project Part 2
- Robotics and Machine Vision
- Eng Problem Solving Principles
- Engineering Mathematics
- Engineering Practice
- Solid Modelling
- Techn Sustainability & Society
- Dynamics I
- Mechanical Practice 1
- Introduction to Thermofluids
- Manufacturing Processes
- Thermofluids
- Computational Mech in Design
- Eng Research Methodology
- Dynamics II
- Electrical Technology
- Mechanical Practice 4
- Embedded Systems Design
- Research Project Part 1
- Structural Design I
- Renewable Energy Technology
- Work Experience - Professional

Dissertation

Final year research project; *Asset Classification with Deep Learning from Computer Added Design Parts*. In this project an industrial client focused method for asset classification is proposed; where the output of a machine learning algorithm can identify the CAD model corresponding to the subject of the image input. This method aims to use a per part identification system based on the client's own database as opposed to the norm of general categorical identification. This involved training multiple iterations of classification models and using them as well as existing models from the Google Keras and Tensorflow framework for machine learning. This yielded a best result of 55.55 percent accuracy with the model trained with the ResNet50 base. One of the main findings was that the most influential factor for success in implementing this technique, is the selection of the pretrained model base.

2014 – 2017, Toowoomba Christian College

High School

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Experience

November 2020 - present, *Draftsman ERP Coordinator*, Downs Sheet Metal and Janke Australia

Detailed achievements:

- Gained experience in design for
  - Sheet metal manufacturing
  - Heavy agricultural equipment
- Improved drafting skills such as;
  - In context modeling
  - File and database stability
  - Revisioning and standardizing
- Used Amada Sheetworks (a derivative of Solidworks) extensively to remotely program an Amada press-brake.
- Used Solidworks CADCAM to program produce Gcode for a Doosan milling machine.
- Set up Opto Manufacturing enterprise resource planning (ERP) software to order, allocate and keep track of materials, produce and track job tickets and provide acurate costing for products.
- Wrote the company standards document for drafting policy as well as engineering design. This document was/is used to train new employees in the practices that are now expected of draftsmen.
- Developed a smart export program to deduce information about part based on metadata as well as geometric markers as well as an import program to enter data into ERP software. This minimizes turnover time between having a finished CAM model and complete automated ERP setup.
- Completed sub-contrated design work for a client where exsisting designs needed to be integrated into a final version. This also had manufacturing contraint due to the fabricators chosen to make the design. This work resulted in 10k worth of billing for Janke.

2015 – 2020, *Trades Assistant*, Bettabuilt Fabrication

Worked in many holidays through high school in the workshop assisting boilermakers. In this time I am grateful to have gained skills in;

- Welding
  - MIG DC and pulse
  - stick
- Fabricating (tacking out)
  - beam and rafter assemblies
  - roller door tracks
  - railings

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UAV Challenge

CAD Software Skills

- Solidworks
- AutoCAD
- Revit
- Sheetworks
- Solid Edge
- Sketchup
- PTC Creo
- Inventor
- Blender

Software Development Skills

Languages

- Python
- VBA
- Windows CMD
- Matlab
- Gcode
- LaTeX
- C / C++
- Bash

Frameworks

- Tensorflow (Machine Learning)
- PyQt (User Interface Design)
- PythonCOM (Automate Solidworks)
- Pandas (Data Science)
- Git (Version Control)

Awards

2017, UAV Aerial Recovery Challenge

Joint team winner of the international UAV aerial recovery high-school challenge ($5500 winnings).

2016 - 2017, *Mechatronics Award*, High-School

Won the school Mechatronics award, consecutively (years 11 & 12).

Interests

- Road Bikes
- Brewing
- Scuba Diving
- FPV Drones

References

Dr Khalid Saleh (+61) 4064 999 24 Khalid.Saleh@usq.edu.au

Professor (Mechanical Engineering) and lecturer at USQ
Taught me Solid Modeling, programming with Matlab and Advanced Thermodynamics.

Dr Tobias Low (+61) 7 4631 1714 Tobias.Low@usq.edu.au

Professor (Mechatronic Engineering) and lecturer at USQ
Taught me Mechatronics & Automation, Robotics & Machine Vision and supervised my Final year Project.

Dr Craig Lobsey (+61) 7 4631 1322 Craig.Lobsey@usq.edu.au

Professor (Mechatronic Engineering) and senior lecturer at USQ
Taught me Mechanical and Mechatronic System Design

Michael Pearson (+61) 429 623 219

Owner of Janke Australia and Downs Sheet Metal

Kerrod Lane (+61) 478 096 662

Ex-Workshop Manager at Bettabuilt

Felix Lallon (+61) 42 477 5446

Boilermaker at The Davey Group

Please consider time zones when calling Australian (+61) numbers.