

# ANDERSON V GUMEDE

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## DESIGN & MANUFACTURING ENGINEER

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I am a highly motivated, focused and committed **Engineer** looking to gain currently working as a Civil CAD Technician for one of the largest projects in Europe and UK as a whole (HS2) and looking to expand my knowledge within technology for more job opportunities within the project. I have specialist knowledge and experience in Computer Technology (CAD): Civil Engineering / Construction and Mechanical / Manufacturing Engineering with a keen interest in Web Development. I have great communication and organisations skills which have proved vital for engineering roles and personal career development. Academically, I hold a **BSc (Hons) in Computer Aided Design Technology** and an **MSc Mechanical Design Engineering** from UK's leading Universities.

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## RELEVANT WORK EXPERIENCE

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*SolidWorks – Creo – AutoCAD – MicroStation – ANSYS – Civil 3D – Mechanical Design - Civil Engineering - CAD*

### **Dec 2021 – Present, Balfour Beatty VINCI JV (HS2). (Civil CAD Technician / Engineer)**

As a Civil CAD Technician, I am required to produce high quality engineering drawings to enable Civil and Construction site work. My responsibilities daily extend to the following:

- Working independently, responsible for initiating and completing tasks and procedures, including where relevant responsibility for supervising or guiding others
- Able to clearly communicate the requirements of a safe system of work to ensure that these are followed accurately
- Able to report issues with control and information provided
- Reads and understands drawings and schedules
- Strong understanding of construction tolerances
- Awareness and use of Specification and other Contract documents
- Able to take off and schedule material quantities accurately
- Able to produce detailed construction sequence drawings showing various stages of the works and interfaces Who we're looking for
- Ability to read and determine information from drawings, schedules and specifications
- Constructability understanding of complex structures, method and sequencing of structures as well as other assets
- Preparation of drawings from Engineers™ sketches, using CAD software
- Preparation of detail drawings
- Interrogation of others™ CAD and BIM models
- Production of schedules, e.g. concrete reinforcement
- Maintaining accurate records “ drawing registers, schedules, specifications and take-off

### **Feb 2019 – March 2020, Best In Design Ltd. (Mechanical Design Engineer)**

As a Design engineer, I was required to produce high quality engineering drawings of 3D assemblies, 2D manufacturing drawings to **Bsi8888** and create Bills of materials. My responsibilities daily extend to the following:

I worked for a **consultancy company** and contracted to an **R&D department** for a large **Stairlift Manufacturer** in UK and a **Museum exhibition Shop-fit Contractor**, with duties including and not limited to:

- Day to day **2D & 3D CAD** design of **electro-mechanical** machinery including assembly layouts/ drawings for manufacture or prototypes.
- Involved in both new design and re-engineering of existing designs of range of special purpose machinery. (Sheet metal components, Plastic components / Fabrication components design for machine equipment).
- **FEA** for existing and new design equipment
- Producing **Jigs and Fixtures** for assembling machine equipment
- Rationalised company drawing standard to meet ISO 9001:2015
- Sourced materials and expedited them while working within budget, including selection of manufacturing process
- **Quality Improvement** of existing products
- **Designed** and produced **Prototypes** for testing
- **Interpreting Design Intent** for manufacturability

### **Jan 2019 – Feb, Addfield Environmental Systems Ltd. (Mechanical Design Engineer - Contract)**

As a Design engineer, I was required to produce high quality engineering drawings of 3D assemblies, 2D manufacturing drawings to **Bsi8888** and create Bills of materials. My responsibilities on a daily basis extended to the following:

- Reporting to Senior Design Engineer and Project Manager
- Day to day 2D & 3D CAD design of machinery including assembly layouts/ drawings for manufacture
- Involved in both new design and re-engineering of existing designs of range of thermal treatment machinery (Incinerator). Design processes included producing of Sheet metal parts / components, Fabricated components, bought out parts/ components for machine assembly).

#### **March 2016–Sept 2017 (1yr 8mons) Laing O'Rourke/Explore Manufacturing, Worktop (Design Engineer)**

As a Design engineer, I was required to produce high quality engineering drawings of 3D assemblies, 2D manufacturing drawings to **Bsi8888** and create Bills of materials. My responsibilities on a daily basis extended to the following:

- Providing comprehensive drawing packs and specifications to facilitate the above activities
- Part of the **Pre-Cast Steel Reinforcement Detailing and Design team**
- Working closely with line managers, project coordinators and contracted consultants to deliver individual pre-cast structural components on a large scale for Laing O'Rourke for key projects within UK & beyond
- Involved from project initiation stages to delivery such as from building layout, pre-cast structural design / modelling
- Undertaking simple stress calculations, weight calculations, etc.
- Liaising with production and management team to ensure projects are completed efficiently and on time
- Implementation of Design for Manufacture and Assembly (DFMA) principles which ensured that any structural product manufactured in-house was installed in-situ without compromising human safety
- Utilised Building Information Modelling (BIM) for design / drawing approvals between contractors and clients.

#### **Aug 2014–March 2016 (1yr 7mons) Bonaprene Products Limited, Wrexham (Design Engineer)**

As a manufacturing engineer, I was required to produce high quality engineering drawings of 3D assemblies, 2D manufacturing drawings to **Bsi8888**, and create Bills of materials. My responsibilities on a daily basis extend to the following:

- Worked within the production department (casting / mould tool departments), played as a key member of the manufacturing process and design team
- Created models / drawings for mould tools / products or amended existing drawings using **SolidWorks**
- **Contacting customers** to get clarity of design and manufacturing requirements when necessary
- Creation of the **Quality Control** documentations, standard operation procedures, shop floor part/program modification forms and the Company technical systems
- Ensuring all product and system requirements are taken into account from conception to finished result
- Supporting and developing Production Part Approval Process (PPAP) and New Part Introduction (NPI)
- Liaising with production and inspection staff on quality and improvement issues
- BOM creation for easy packaging and assisting in **Jigs & Tool Fixtures** design
- Managing/planning workload for CNC machines ensuring smooth and as cost effective as possible running of those machines, created Numerical Control (NC) programs for machining using **SolidCAM & AlphaCAM**
- Sourcing new or existing suppliers, sub-contractors for materials and expedited orders to ensure customer lead times were met, whilst managing set budgets.
- Attended production meetings to discuss and resolve issues or client concerns arising.
- Worked closely with all key production departments to produce job costings / estimations for the sales department.

#### **April 2011– July 2011 Koyo Bearings, Automotive, Barnsley (Quality Inspector)**

KOYO Bearings is an engineering company that manufactures bearings, brake discs and much more for several customers including successful blue-chip organisations globally.

- In this role I performed quality inspection for manufactured products, identifying defects by using Calipers, Micrometers and visual inspection.
- The role required a degree of accuracy and technical approach; I ensured each product was thoroughly checked to ensure that any defect was identified through standard documenting.

#### **July 2010 – Sept 2012 Premier Foods, Barnsley (Production Operative, Summer Seasonal job)**

The company produces confectionery such as cakes, mince pies, biscuits etc.

- Worked in the food production plant line; applying safety and hygiene systems, quality checks to ensure products were of a high standard, **operated automated and manual equipment** to the required standards, including starting up, shutting down
- Routine diagnostics on a specific area of the plant line.
- Packaging and loading goods to pallets
- This developed my problem-solving skills and working effectively as **part of a team**.

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### **RELEVANT PROJECTS**

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- **Best In Design Ltd:** Here I worked within an R&D department designing jigs and fixtures, FEA for new or existing designs and updating drawings for (New Generation) special purpose equipment.

- **Addfield Environmental Systems Ltd:** Part of a design team worked on the design of Incinerator machine (Thermal treatment machinery) for a large hospital in the UK.
- **Laing O'Rourke:** Large Projects in UK including; Dumfries and Galloway Hospital, Oxford Westgate (London), Southbank London Eye: Reinforcement detailing of pre-cast structures, **designed** and produced technical 2D / 3D drawings and issued them for manufacture. (Columns, Twinwalls, Lattice / Floor slabs, Solid walls).
- **Bonaprene Products Limited:** Large Oil and Gas UK approached the company to manufacture umbilical clamps to be used for Oil Tanker installation under the sea to avoid damaging the Riser or Umbilical along with a neutral buoyancy. I modelled and produced drawings as per customer's specification, **designed the tooling**, contacted suppliers for materials, produced Numerical Control programs amongst other duties.
- **Development of an Oscillating Resonance Fluid Pump:** This project involved re-design of an existing concept pump, manufacturing, building a test rig and performing experiments to investigate water flow rate and lift capability. This project required a thorough understanding of fluid mechanics.

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## QUALIFICATIONS

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**2017-2018:** Huddersfield University. **MSc Mechanical Design Engineering**

**2011-2014:** Sheffield Hallam University. **BSc (Hons) Computer Aided Design Technology**

**2008-2010:** Rotherham College, Rotherham: **BTEC National Diploma in Manufacturing Engineering (DDD)**

**1998-2002:** G. S. S. Zimbabwe: **IGCSE 7 (with grades A-C including Maths and English)**

**Other Qualifications:** Nov 2017 (Huddersfield University): **Certificate ISO 9001–2015**, Feb 2018 (Huddersfield University):

**Certified DriveWorksXpress Associate** & 2009-2010: Rotherham College: **Certificate in Computer Aided Design 2D Level 2 and 3 AutoCAD.**

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## SKILLS AND PERSONAL ATTRIBUTES

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### Analytical and Conceptual Orientation

I have developed a strong analytical approach which has required identifying problems, being creative, making logical conclusions whilst staying results-orientated.

### Technical Skills

I am competent in the use of **SolidWorks, AutoCAD, Abaqus, ANSYS, SolidCAM, DriveWorks Express, & Microsoft packages including, MS Word, Excel, Access, PowerPoint and Outlook.** I have excellent understanding of engineering principles and theories.

### Team work & Leadership

I work very well with my colleagues in the engineering department and across the entire company to ensure we produce the best results to maintain the reputation of the organisation. This commitment has enhanced my skills in developing rapport, communication, coordination, open-mindedness and being supportive.

### Communication skills (oral & verbal)

I possess **excellent written and oral communication skills** which have been developed through the jobs I have worked since graduating from university.

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## REFERENCES: Available on request

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