ARUN SHANKAR SHANMUGASUNDARAM

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EDUCATION & EXPERIENCE

Mechanical Engineer – NetGroup Engineering (Greensboro, NC) **August 2018 – Present**

- Design engineer working on Product Development projects for Volvo Trucks North America's Class-8 E-Mobility offering

Master of Science in Mechanical Engineering (Clemson University, SC) **August 2016-May 2018 || GPA: 3.54/4**

- Minor in Thermal Fluid Sciences with a focus on Computational Methods in Fluid Dynamics

Engineering Intern – ZF Industries (Gainesville, GA) **August 2017- August 2018**

- Manufacturing Intern responsible for assembly fixture and tooling design for Off-Highway Transmission and CV axle assembly

Bachelor of Technology in Mechanical Engineering (SRM University, India) **August 2012-May 2016 || GPA: 8.23/10**

- Minor in Thermal Engineering with a focus on Compression Ignition Combustion Engines

Engineering Intern – Ashok Leyland (Chennai, India) **June 2015 – July 2015**

- Manufacturing Intern supporting fixture design for process automation at Bosch Fuel Injection Pump sub-assembly station

PROJECTS

Electric truck air management system design (Volvo Trucks)

Designing an air management system for the VNR electric truck (L.I.G.H.T.S.) project

- Packaging and routing air lines incorporating relevant valves for ABS Modulators, Air Compressor, Centralized Pressure Control and Air Dryer
- Analyzing air volume requirements for brake & transmission applications to re-configure air tank configuration per Federal Motor Vehicle Safety Standard
- Analyzing solenoid valve configurations and solutions for different product offerings based on end applications that require air supply

Global fastener replacement (Mack Trucks)

Introduced bolts with a 12 – point wrench grip feature across various functional areas of Mack heavy duty trucks for the facility in Macungie, PA

- Updated CAD modules, created packaging layouts, tech-notes and links on PDM system (KOLA) to reflect the fastener change
- Coordinated work with an off-shore team in India

Low-ride suspension design (Mack Trucks)

Worked on CAD deliverables for a low rear suspension offering for Mack construction trucks for improved ride quality

- Packaged and created new CAD modules for the low rear suspension offering for variants with/without shock absorbers
- Created installation drawings and PDM system links for the new offerings

Mack body build chassis layouts (Mack Trucks)

Recurring CAD projects to deliver chassis layouts to body builders for customer adaptation

- Creating lightweight 3D models of chassis and driveline layouts in the form of Step files to act as space claim models for body builders to work around
- Creating DXF files following standard dimension schemes

Electric truck cooling system design (Volvo Trucks)

Designing a cooling system for the VNR electric truck (L.I.G.H.T.S.) project

- Packaging and routing coolant hoses and pipes to the Energy Storage System, Electric Motor, Air Compressor and other electric components across the truck
- Designing sheet-metal brackets and weldments to support the coolant pipes and hoses
- Preparing drawings for the coolant pipes, hoses and brackets

Spill-cut automation for Inline Fuel Injection Pump used in Diesel engines (Ashok Leyland)

Process improvement project completed during an internship at Ashok Leyland's engine assembly line for Bosch inline fuel injection pumps used in their 6-cylinder engines

- Responsibilities included developing part drawings on AutoCAD and being involved in the pneumatic system design of the automated setup
- Automated setup helped reduce average cycle time by 18.63% and reduced process errors by 14.6%

COMPUTER SKILLS				
CAD	**Computational Solvers &CAE**	**Product Data Management (PDM)**	**Product Lifecycle Management (PLM)**	**MS Office Suite**
Creo (Pro/E), Catia Solidworks	COMSOL, MATLAB, Fortran	KOLA (Volvo), Axalant (ZF)	Windchill (Volvo), Teamcenter (ZF)	Word, Excel, Outlook, Powerpoint