



POSITION DESCRIPTION

Title: Engineering Fellowship Program - Intern
Reports to: Product Manager

Rev. Date: 1/15/24
Pay Grade: \$22-\$25

BE PART OF THE SHAPE FAMILY

We are thinkers, believers, and doers. At Shape, we don't accept the status quo; we look at it as our opportunity to push limits and tradition. A chance to bring something new to our customers, team members and communities. When seemingly impossible challenges arise, we look to the core of the problem, and create solutions others believe can't be done.

Position Summary: As an engineering fellow at Shape Corp., you will be engaged in redefining Shape's product lines for the future. The automotive industry is undergoing a once-in-a generation change with electrification and autonomous driving. These changes are substantial and influence the entire vehicle, including the structure. The focus for the fellowship will be on an innovation project to support Shape's future focused product portfolio for the vehicle body in white, something we call *Shape 2.0*

Engineering Fellowship Focus:

- Support an innovation project on Shape's Advanced Product Development Team
- Interpret product vision, translate into actionable goals/tasks to execute
- Apply appropriate engineering tools as needed for concept development/evaluation
- Conduct basic technical and commercial feasibility analysis
- Complete technical reports and presentations for internal and external audiences

Education & Experience

- Currently pursuing a Master's degree at the University of Michigan and accepted into the Fellowship program
 - Strong verbal communication skills
 - Strong research capabilities
 - Strong grasp of engineering mechanics, statics/kinematics/dynamics, as well as materials science emphasis on metals
 - 3.0 GPA or higher on 4.0 GPA scale

 - Soft/qualitative
 - Creative, well rounded engineering background
 - Likes and is proficient with the engineering theory, but also has/enjoys hands on experience
 - Curious mind, enjoys investigating, researching and brainstorming
 - Unafraid of open ended requests and/or leading engineering activities

 - "Dream" candidate
 - Familiarity with automotive sensing capabilities, signal processing, vehicle electrical architecture
 - Familiarity with vehicle body-in-white structures
 - Familiarity with advanced high strength steels/aluminum alloys, properties, uses in automotive structures
 - Familiarity with computer aided engineering (CAE) inputs/outputs
 - Familiarity with automotive crash requirements/BIW functions
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Strength Analysis: Assess the activities performed by associates in this job. Using the matrix provided below, select the best description (drop down box in shaded area below) of the associate's weight/force requirements and actual body position description.

Actual Weight/Force:

Actual Body Position:

WEIGHT/FORCE: Exerted to lift/carry/push/pull/move objects <i>S: Sedentary L: Light M: Medium H: Heavy V: Very Heavy</i>				BODY POSITION <i>S: Sedentary L: Light</i>			
Work Day	Occasional (up to 1/3 day)	Frequent (1/3 to 2/3 day)	Constant (>2/3 day)	Work Day	Occasional (up to 1/3 day)	Frequent (1/3 to 2/3 day)	Constant (>2/3 day)
Negligible	S	S	L	Stand	S	L	L
10lbs. max	S	L	M	Walk	S	L	L
20lbs. max	L	M	H	Sit	L	L / S	S
25lbs. max	M	M	V	Use Arm/Leg Controls	L	L	L
50lbs. max	M	H	V				
100lbs max	H	V	V				
>100lbs.	V	V	V				

Physical Demands Analysis: Physical Demands describe the physical activities required to perform jobs. Check the box next to each physical demand description listed below based on the frequency of that activity.

Physical Demand	Description	Not Required	Occasional (up to 1/3 Day)	Frequent (1/3 - 2/3 day)	Constant (>2/3 day)
Strength:	Lift, carry, push, pull, move, stand, walk, sit and use arm or leg controls	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Climbing:	Ladders, stairs, scaffolding, ramps, poles, etc	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Balancing:	To prevent fall from hazardous places	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stooping:	Bending spine at the waist	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kneeling:	To come to rest on the knees	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Crouching:	Bending the legs and the spine	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Crawling:	By moving about on hands and knees	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reaching:	With hand, arm, in any direction	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Handling:	By seizing, holding, grasping or turning	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fingering:	By picking or pinching with the fingers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling:	For size, shape, temperature and texture	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Talking:	To exchange ideas or information with others	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hearing:	Sounds by ear	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Tasting/Smelling:	Variations in flavors or odors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Near Acuity:	Vision at 20 inches or less	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Far Acuity:	Vision at 20 feet or more	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Depth Perception:	To judge distances	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accommodation:	Quick near-point visual refocus	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Color Vision:	To identify and distinguish colors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Field of Vision:	Around the periphery of a fixed point	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	Explain: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Environmental Conditions Analysis: Environmental conditions are the surroundings in which a job is performed. Check the box next to each environmental condition listed below based on the frequency of that activity.

Env. Condition	Description	Not Required	Occasional (up to 1/3 day)	Frequent (1/3 - 2/3 day)	Constant (over 2/3 day)
Weather	Exposure to weather (outside)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hot/Cold	Extreme non-weather hot/cold temperatures	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wetness	Exposure to wetness and non-weather humidity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noise	Higher than 85 dB	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vibration	Shaking of objects or surfaces	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Atmospheric Conditions	Fumes, noxious odors, dust, gas, poor ventilation affecting respiratory system, eyes or skin	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moving	Mechanical parts hazard	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electric	Shock hazard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High Elevation	Exposed places hazard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Radiation	Exposure hazard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Explosion	Hazard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toxic/Caustic	Chemical Hazard	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>