Jaideep Singh Chavan 🖪

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EXPERIENCE .

Bumblebee Spaces ☐

San Francisco, CA

Jul 2019 - Present

Product Architect & Mechanical Engineering Manager

A home robotics company, designing efficient living spaces using robotics & AI. Funded by Toyota AI Ventures & NTT VC.

- Recruited, managed & grew the Product Design, Operations, Install & QA teams of 12, to build robotic furniture
- Led the cross-functional development of Mechanical & Mechatronic systems working with Electrical, Software, Embedded, Validation, and Production teams to scale the product with strict budget and time constraints
- Translated product requirements into technical specifications, managed project roadmap and scope to deploy new features. Built project plans to split project scope into smaller milestones for the team to achieve successful completion
- o Built design processes, conducted technical reviews, maintained AutoDesk Vault PLM, BOM and RCO management & final sign-off for manufacturing release to CM
- Led engagement and selection of CMs & suppliers to accelerate and scale design from alpha/Beta, to EVT and DVT. Outlined requirements, scope of work and engineering services agreements to leverage DFM/S and testing expertise

Staff Hardware Engineer

- Designed the Robot Module from alpha prototype to E/DVT release including adjustable install system, chassis, drivetrain & gearboxes, electromechanical mechanisms, self-deploying passive furniture feet, motor dyno, jigs & fixtures
- o Minimized ceiling stack thickness (50%), Reduced install time(85%), Improved Noise reduction(70%), Drove down Module MBOM cost (60%) and significant Safety, Durability, DFM/A/S improvements
- Led product validation, identified failure modes, wrote verification and validation plans for various builds to test function, durability and interactions including cycle testing, over-stress, abuse, material and environmental testing
- Provided on-site support during builds for international CMs and suppliers in China, Germany, India, UK and US. Audited and approved build processes, SOPs and production batch inspection and test reports

GreyOrange Robotics ☐

Gurgaon, India

Lead - Product Integration, Butler M & XL

Nov 2015 - Jan 2018

- India's largest hardware startup, building robotic systems to automate warehouses. Funded by Tiger Global & Mithril Capital
 - o Collaborated with inter-disciplinary teams to lead design and release 3 versions of autonomous Goods-to-Person robots
 - Recruited, managed and grew the Design & Manufacturing team from 3 to 17 engineers across three Butler platforms • Supported production build events, conducted cross-functional design & validation reviews, and Root Cause Analyses

 - Worked with 30+ suppliers, communicated requirements, supported supplier development, and evaluation
 - Led work on system reliability testing and successfully obtained CE certification. Led validation tests such as ALT, HALT, EMI/EMC (ISO 7637-2), Environmental tests (IEC 60068-2-1A/2B/30/64) in collaboration with ARAI

Lead Product Design Engineer, BUTLER Robot

Nov 2015 - Aug 2016

- o Designed, Integrated & Released over 70% of all Electromechanical systems using several materials & manufacturing processes: Chassis & Load Structures, Powertrains, Gearboxes, Suspension System, Harness & Enclosures, Test Setups
- Engineered 3D CAD, validated and iterated designs using FEA, built & tested prototypes. Applied standard practices including Design for Manufacturing and Assembly (DFMA), tolerance analysis, and ASME Y14.5 GD&T principles
- o Defined sensor selection, architecture and integration of all electromechanical and hardware systems (Lidar, Camera, Depth, ODS, Proximity, IR, safety, IMU, Powertrains, Battery Systems, Enclosures, Harness etc)
- o Built in-house prototypes using CNC Machines, 3D printers, Laser Cutters, Lathes, Welding, Thermoforming

Fiat India Automobiles Pvt Ltd

Pune, India

Manufacturing Technologist - Jeep Compass & Fiat Punto

Jun 2015 - Oct 2015

- Performed process control & kaizen assignments in Engine, Transmission, BIW, Paint shop and Car Assembly lines
- Worked on production line design & installation for Jeep Compass & relocating Fiat Punto Body-in-White (BIW) plant.

CAE Engineer, Durability

Jun 2014 - Jun 2015

- o Developed analytical models to accurately predict Minimum Door Closing Velocity for all FCA swing doors.
- \circ Validated & published results in SAE World Congress. Improved computation time by 40% & accuracy by 12%.

HONORS & ACHIEVEMENTS □ _

- Recipient of the prestigious J. N. Tata scholarship (selection rate 0.1%), for pursuing Masters' in Mechanical Engineering.
- Presented with "The Rising Star" award by the CEO of GreyOrange, for remarkable technical contribution to the company.
- Led the university SAE teams in three competitions as Head of Design including SAE BAJA, placed 11th/320+ in Engineering

Professional & Technical Skills .

- Inventor, Solidworks, NX
- ANSYS, Abagus, ANSA
- DFM/A/S, GD&T Y14.5
- Testing & Certification

- Matlab, Simulink
- C/C++, Python
- Windchill, Vault PLM
- Jira/Confluence/Asana

EDUCATION

Michigan Technological University

Michigan

Master of Science in Mechanical Engineering; GPA: 3.8

Birla Institute of Technology and Science, Pilani

Dual Major: MSc. Physics + BE. Mechanical Eng; Major GPA: 8.65/10.0

India