

JOSH GIBBS

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Regulatory Compliance > Streamlining Performance
Material Development > Nanorobotics > Manufacturing

MECHANICAL ENGINEER

< *Develops fabrication solutions that improve material performance.* >

- > **Material Designing & Manufacturing:** Developed a new design and manufacturing technique that outperformed all others. Collaborated with Micre Inc. to redesign existing method to retain material advantages and make adhesive fibers directional.
- > **Efficient Solution Creation:** Saved \$5K/month and reduced adhesive development by almost 300% by introducing thermoplastics elastomers as an alternative to thermosetting polymers.
- > **Micro-fabrication Techniques:** Awarded 2nd place at the 2013 Micro-Robotics Competition in Germany, beating more experienced teams; designed a micro-fabrication technique to produce microscopic arenas and micro-objects.
- > **Software:** AutoCAD, Autodesk Inventors, CorelDraw, L-edit, Revit MEP 2012, ANSYS Mechanical, CFX, COMSOL Multiphysics, ANSYS Mechanical APDL, CasaXPS, NI Vision Builder, MATLAB, LabVIEW.

PROFESSIONAL EXPERIENCE

Safety Watch (Project) at *HMS Interceptor* 2015 – Present

- > Created safe working spaces in extreme weather by ensuring strict adherence to industry and company safety protocols.
- > Set record for 0 injuries by providing breathing air services, confined space monitoring, fire watch, and bottle watch.
- > Streamlined performance by 50% by conducting safety meetings (20-40 people) twice a day and by assisting in job-based toolbox meetings (3-10 people) for contractors. Provided one-on-one reiterations of importance of safety protocols.
- > Reduced major safety hazards by presenting safety protocols that could be implemented despite architecture limitations.
- > Conducted on-job training of personnel, job-based toolbox meetings (5-6 people), and post job safety meetings (15-30 people).

Research & Teaching Assistant at *University of Tortuga* 2011 – 2014

- > **Gecko-Inspired Dry Adhesive:** Led a 5-member team to design and fabricate gecko-inspired dry adhesive in collaboration with MicreInc. Design outperformed all others. 2013 Micro-Robotics Competition
Won 2nd Place
- > Completed project in record 1 year. Developed and tested concept using software, created proposal and technical reports, and performed cost-benefit analysis. Reduced Adhesive Production Time
300 to 5 min
- > Redesigned manufacturing process and introduced thermoplastic alternatives; new material was less toxic, longer-lasting, and could be used in large quantities. 2013 Engineering Research Symposium
Won Best Poster
- > Mastered multiple fabrication processes like hot embossing, thermo-compression molding, replica molding, photo-lithography, and metal deposition and patterning.
- > Introduced fabrication of metallic/non-metallic custom machine parts by preparing drawings, collaborating with shop staff, and using lab equipment: Ultrasonic Bonder, 3-Roll Mill, Hot Embosser, Plasma Etcher, and Scanning Electron Microscopes.
- > **Nanorobotics Competition:** Created and won grants, proposals, and budgets. Recruited and led team.

Lecturer at *Isla Cruces University of Science and Technology* 2010 – 2011

EDUCATION & CERTIFICATIONS

EIT Association of Professional Engineers & Geoscientists of Tortuga 2014

ME, Mechanical Engineering University of Tortuga 2014

- > Published [Engineering Publication on Dry Adhesives](#) Gibbs, Physics of Fluids, 2014.
- > Published [Engineering Publication about Characterization of Dry Adhesives](#) Gibbs, Physics of Fluids, 2014.
- > Designed and manufactured workshop souvenirs using laser machine as **VP of Finance, Mechanical Engineering Graduate Student Association**. Arranged coffee breaks, barbeques, and other events while ensuring adherence to budget.

BE, Mechanical Engineering Isla Cruces University of Technology 2009

RATIONALE

Challenge: Josh wanted to find a job that was in line with his degree. His previous resume made him look like he didn't have the necessary experience or skills. The scattered and cluttered feeling in his resume only compounded this image.

Action: To prove Josh had the necessary skills, I highlighted relevant mechanical engineering experiences from his college experience in the visual center. I bolstered this by including the software and tools he was experienced in using. Next, I highlighted transferable soft skills. To further build his authority, I included his publications.

Result: Josh used his new resume to apply to entry-level mechanical engineering jobs with renewed energy. He began getting calls back within a few weeks of beginning his job search anew.

Josh Gibbs

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This is the draft Josh was previously using to apply for jobs.

Key Qualifications:

- Pursuing M.Sc. in Mechanical Engineering at the University of Tortuga with good academic standing and will be eligible for registration as EIT in APEGA upon graduation
- Proficient in 2D/3D designing and drafting tools like SolidWorks, AutoCAD and Autodesk Invent
- Skilled in finite element analysis tools like ANSYS (Mechanical) and COMSOL Multiphysics as well as in commercial CFD tools like ANSYS CFX
- Demonstrated excellent verbal and written communication skills while working as a graduate research and teaching assistant at the University of Tortuga
- Good presentation skills leading to an award-winning performance at a graduate research symposium at the University of Tortuga
- Exhibited good team skills while working with the multidisciplinary Nanorobotics team at the University of Tortuga, eventually securing 2nd position in a challenge at the 2013 IEEE Microbotics Competition in Karlsruhe, Germany
- Worked on and managed several projects while serving as executives in the Mechanical Engineering Graduate Student's Association (MEGSA) and the Pelegosto Student's Association at the University of Tortuga.
- Flexible in terms of work location and willing to relocate when necessary

Education:

MSc, Mechanical Engineering

(expected date of graduation: 2014)

University of Tortuga, PD

GPA: 3.60/4.00

Thesis: Design and manufacture of non-transferring, conducting and directional gecko-inspired dry adhesive for potential applications in MEMS pick-and-place technology.

Key Courses: Finite Element Methods, Introduction to polymer micro-fabrication, etc.

BSc, Mechanical Engineering

(graduation date: 2009)

Isla Cruces University of Technology, Palisadoes

GPA: 3.92/4.00

Final Year Thesis: Numerically simulate the fluid flow through a fin-and-tube heat exchanger at different flow conditions to understand the thermodynamic behavior of the fluid during the heat exchange.

Key Courses: Machine Design, Manufacturing Processes, Computer Aided Design and Manufacturing, Production planning and Control, Industrial Management, etc.

Research Experience:

Research Assistant, Department of Mechanical Engineering, University of Tortuga

(September 2011 – present)

- Collaborated with Micre Inc. on the designing and fabrication of a gecko-inspired dry adhesive which is conductive, non-transferring and directional in nature
- Mastered fabrication processes like hot embossing, thermo-compression molding, replica molding, photo-lithography on polymeric materials, metal deposition and patterning, etc.

Work Experience:

Teaching Assistant, Department of Mechanical Engineering, University of Tortuga

(September 2012 – April 2013)

- Delivered lectures in the tutorial sessions of MecE 371: Heat Transfer course, assessed students' performance, etc.

Lecturer, Department of Textile Engineering, Isla de Muerta University

(February 2011 – September 2011)

- Taught engineering classes, supervised students in different projects, conducted field trips, etc.

**Lecturer, Department of Textile Engineering,
Isla Cruces University of Science and Technology, Palisadoes**

(July 2010 – February 2011)

- Job responsibilities same as above

Industrial Experience:

Month-long industrial training at:

- Aztec Urea Fertilizer Factory Limited (PUFFL), Parley SandBar, Pelegosto
- Port Royal Power Station Company Limited, Isla Delono, Pelegosto

Technical and Computer Skills:

- Proficient in office tools like Microsoft Word, Excel, PowerPoint, etc
- Good skills in simulation software like ANSYS Mechanical, ANSYS CFX and COMSOL Multiphysics. Performed a class project on the stress analysis of a connecting rod subjected to buckling load using ANSYS Mechanical. Also published a CFD-based conference article on Sustainable Transport in World Renewable Energy Congress, Sweden 2011
- Expert in surface characterization software CasaXPS and image processing tool NI Vision Builder.
- Skilled in CAD tools like Solidworks, AutoCAD, Autodesk Inventors, CorelDraw, L-edit
- Familiar with the mathematical tools in Matlab

Accolades:

- Won The Daily Star Award for outstanding results in GCE O-level and A-level
- Won the Best Poster Award in the Nanotechnology Category in the 2013 Faculty of Engineering Graduate Research Symposium at the University of Tortuga

Leadership Roles:

- Served as the Vice-President Finance in the Mechanical Engineering Graduate Student's Association (MEGSA) 2012-2013 executive committee, University of Tortuga
- Worked as Vice-President Communication in the Pelegosto Student's Association at the University of Tortuga

Others:

- Holder of the Tortuga class 5 Graduated Driving License

References:

Available upon request