
Engineering Experience	p.1
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Laboratory & Manufacturing Skills	p.5

ENGINEERING EXPERIENCE

Geared Technical Solutions LLC Owner, 2014-08 to Present
Tucson, AZ, USA

- Providing consultation and software solutions for simulation and design projects

Arizona Eye Consultants Biomedical Engineer, 2013-06 to 2016-01
Tucson, AZ, USA

- Conducted finite element simulations of biological subjects
- Optimized ocular diagnostic tool design
- Determined ocular tissue material properties
- Composed engineering drawings
- Composed technical documents for medical research journals and FDA compliance

Micro Air Vehicle Laboratory Graduate Research Assistant, 2012-08 to 2013-12
Aero & Mech Engineering Dept Research Specialist, 2011-11 to 2012-07
University of Arizona
Tucson, AZ, USA

- Designed experiments and tested ornithopters and locusts
- High-speed stereoscopic motion tracking
- Developed 3D kinematic post-processor, GUI, and data analysis tools
- Created and simulated 3D virtual models of subjects
- Presented findings and techniques to AVT-184 NATO panel
- Composed technical papers for AIAA, IMAV, and AFRL

INSTRUCTIONAL EXPERIENCE

- | | |
|---|--|
| Mack Language Tutors
Poland, Wroclaw
Tutor, 2017-06 to Present | Tutoring of ESL for business, accounting, and digital professionals |
| Varsity Tutors, LLC
Online (US Clients)
Tutor, 2016-10 to Present | Tutoring of calculus, physics, and mechanical engineering to secondary through graduate students |
| Qingdao Yue Du Shu Xiang
Online (Chinese Clients)
Tutor, 2016-06 to Present | Tutoring of elementary and middle school literature and science for ESL students |
| Aero & Mech Engr Dept
University of Arizona
Tucson, AZ, USA
Graduate TA, 2013-01 to 2013-05
Grader, 2012-08 to 2012-12 | Led discussion and laboratory sessions of undergraduate aeronautics course |

OPERATIONS EXPERIENCE

- | | |
|--|--|
| SocialWhirled
Phoenix, AZ, USA | Operations Manager, 2014-04 to 2014-07 |
|--|--|

- Implemented and provided support for project management system
- Managed CRM database
- Trained and oriented sales and operations teams
- Demonstrated products and services
- Created and maintained support documentation
- Coordinated sales and operations pipelines

Skills and Tools

(1) Task management with Trello, (2) CRM with Infusionsoft, (3) Training of customers and coworkers

- | | |
|---|---|
| Graduate College
University of Arizona
Tucson, AZ, USA | Office Specialist Senior, 2011-10 to 2010-09
Office Specialist, 2010-09 to 2009-05 |
|---|---|

- Collected and presented data for institutional studies
- Assisted in design of student data systems
- Instructed and served customers, coworkers, and colleagues
- Enforced institutional and federal regulations
- Processed academic information, financial aid, and employment benefits

Skills and Tools

(1) Database query and management with Peoplesoft, MS Access, (2) Maintenance of reference documents with MS Word, Adobe Acrobat Profession, Drupal, HTML

EDUCATION

Master of Science in Aerospace Engineering

University of Arizona, Tucson, AZ, USA
2013-12-20

Courses

(1) Advanced Dynamics, (2) Advanced Linear Control Theory, (3) Aero-Elasticity, (4) Biomechanical Engineering, (5) Computational Multiple-Body Dynamics

Bachelor of Science in Engineering Physics

University of Arizona, Tucson, AZ
2009-05-16

Courses

(1) Computational Physics, (2) Digital Electronics, (3) Dynamics of Machines, (4) Electricity & Magnetism, (5) Experimental Physics, (6) Finite Element Analysis, (7) Fluid Mechanics, (8) Material Science, (9) Mechanical Vibrations, (10) NMR Spectroscopy, (11) Optics, (12) Quantum Mechanics, (13) Solid-Body Mechanics, (14) Special Relativity, (15) Theoretical Mechanics, (16) Thermodynamics

PUBLICATIONS

- McCafferty S, Lim G, Duncan W, Enikov ET, Schwiegerling J, Levine J, Kew C, “Goldmann tonometer error correcting prism: clinical evaluation,” Dove Press, 2017. https://www.dovepress.com/articles.php?article_id=32666
- McCafferty S, Lim G, Duncan W, Schwiegerling J, Enikov E, “Goldmann Tonometer Prism with an Optimized Error Correcting Applanation Surface,” Translational Vision Science and Technology, 2016. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5024557>
- Lim G, “Kinematic Studies of Flapping-Wing Flight for Membrane Wings,” MS Thesis, Aerospace and Mechanical Engineering Department, University of Arizona, Tucson, AZ, 2013. <http://www.geared-tech.com/portfolio/Flapping-Wing%20Flight.pdf>
- Lim G, Kumar R, Shkarayev S, “Kinematics Analysis of Ornithopter Free-Flight,” *Characterization of Bio-Inspired Micro Air Vehicle Dynamics*, AFRL paper, 2012. <http://bit.ly/2p3JnZv>
- Lim G, Shkarayev S, “Studies of Flight Kinematics of Ornithopters,” *IMAV 2012*, German Institute of Navigation, Braunschweig, Germany, 2012.

PROJECTS

C# Network Simulation Library, 2017 - Present

Develop network simulation .dll file for C# that supports asynchronous simulation, analytics, and conforms to ISO/IEC 15909-2:2011 standards.

- Agile development and versioning with GIT in Visual Studio
- Coordination with project manager
- Genetic and machine deep-learning simulations

Private Mobile Intranet, 2017 - Present

Design, configure, and maintain an insertable chip for mobile devices (e.g. phone or tablet) that provides private access to a server in a local network.

- Server security and management with Apache
- Database management with MySQL
- User-interface design with HTML, PHP, javascript, CSS

Project Management System, 2017 - Present

Design, implement, and maintain a project database and user-interface on private server for tracking multiple engineering projects.

- Database management with MySQL
- User-interface design with HTML, PHP, javascript, CSS

Multi-Dimensional Data Analysis Applications, 2015 - Present

Design, develop, and implement – for the purpose of analyzing generalized data –(1) a custom programming language, (2) a non-graphical processing application, (3) a graphical user-interface.

- Programming language design with Visual Studio
- Object-oriented programming with C++, C#, MATLAB
- User-interface design with HTML, PHP, javascript, CSS

Physical Simulation Application, 2015 - Present

For the purposes of mechanical design and simulation, design, develop, and implement (1) a non-graphical processing application, (2) a graphical user-interface.

- Object-oriented programming with C++, C#, MATLAB
- User-interface design with HTML, PHP, javascript, CSS

COMPUTER SKILLS

Languages: C++ (3yrs.), C# (2yr.), MATLAB (10+yrs.)

FEA: ABAQUS (6mo.), ANSYS (1yr.), FEMPRO (1yr.)

CAD: ANSYS (1yr.), Geomagic (1yr.), SolidWorks (1yr.)

Documents: L^AT_EX(5yrs.), MS Word (20+yrs.), MS Powerpoint (15+yrs.)

Web: CSS (10yrs.), Drupal (5yrs.), HTML (10yrs.), Javascript (10yrs.), PHP (2yr.)

Databases: MS Access (2yrs.), MS Excel (15+yrs.), Infusion Soft (6mo.), SQL (6 mo.), PeopleSoft (5yrs.)

Virtual Tools: LabView (1yr.), MATLAB (10+yrs.), Quartus II (6mo.)

TECHNICAL SKILLS

Aerospace: wind tunnel operation; aerodynamic structure analysis (steady, unsteady)

Circuits: FPGAs; A/D circuit design; oscilloscope; troubleshooting

Machining: bench grinder; drill press; hand tools; lathe; laser cutter, mill (manual, CNC); tolerancing; validation; verification

Mechanics: 3D visualization; 6-axis force gauge; motion tracking; photogate; videography (Phantom, Vicon)

Optics: chromatography (gas, liquid); spectroscopy (aberration, diffraction, NMR)

General: biological subjects handling; FDA compliance; data analysis; error analysis; metrology; virtual tool design