

Min-Chang (John) Tsai

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OBJECTIVE	Full time position of Mechanical Engineer, Electrical Engineer, or Mechatronics Engineer
WORK EXPERIENCE	<p>Mechanical Engineer, Applied Optoelectronics, Inc, Sugar Land, TX, April 2007 – Present</p> <ul style="list-style-type: none">● Handle semiconductor laser packaging (communication MEMS product).● Program closed loop control system industrial robot (Newport MRSI 505 & 605).● Transfer new optoelectronics material from R&D into present product.● Operate K&S semiconductor wire bonding machine and Newport laser welding machine.● Apply FA (failure analysis) and DOE (design of experiment) to improve present and reduce rework product.● Apply six sigma and BOM control concepts on the products.● Apply the 2D and 3D of AutoCAD & Solidworks to design tooling and mechanism.● Understand to select suitable screws to do tolerance design.● Design testing print circuit board (PCB). <p>Rotorcraft Soldier, R.O.C Taiwan Army, Sept 1999 – June 2001</p> <ul style="list-style-type: none">● Assemble large scale AH-1W helicopter mechanical module.● Operate the CNC milling machine.
RELEVANT PROJECTS	<ul style="list-style-type: none">● Improve Intel optical gain chip packaging design and the yield rate from 70% to 90%. (company project)● Improve BOX TOSA (BOX Transistor Outlet Sub-Assembly) packaging design, product physical characteristics, and do failure analysis. (company project)● Improve the existing solder melting problem of Butterfly (RF communication MEMS device) by using DOE method. (company project)● Design heat transfer tooling, sheet metal and other mechanical mechanism by using AutoCAD 2006 and Solidworks 2007 with COSMOS. (company project)● Analyze robot motion path by using MATLAB/Simulink.● Program Intel 8051 chip to do step motor closed-loop control.● Use Cadence to design multiple stage differential amplifiers, do circuit simulation, and analyze nonlinearity and mismatch. (analog IC project)● Use Cadence to design memory circuit and digital phase-locked loop (PLL). (digital IC project)● Experience solar cell fabrication including mask, wet etching, oxidation, and photolithography process in cleanroom.● Design MEMS thermal actuator by using ANSYS environment to analyze the electrical and thermal properties of the thermal actuator.● The Analysis and Simulation of Biomedical Device in ANSYS Environment, February 2007: using ANSYS to analyze and build up biological structure in the medical application (EE degree project)● Pitch Arm Control and Virtual Realization of T-type Robot Helicopter, September 2005: applications of dynamics, system theory, and OpenGL to generate a new model (ME degree project)
EDUCATION	<p>University at Buffalo, the State University of New York M.S., Electrical Engineering, February 2007 (Concentration: Semiconductor Fabrication, MEMS, and Nanotechnology) M.S., Mechanical Engineering, September 2005 (Concentration: Mechatronics and Control System)</p> <p>Tamkang University, Taipei, Taiwan B.S., Mechanical and Electromechanical Engineering, June 1999</p>
COMPUTER SKILLS	<ul style="list-style-type: none">● Program Languages Fortran, C++ with MFC, MATLAB, LabView, VHDL● CAD Tools AutoCAD 2002 & 2006, Solidworks 2007, Pro-E, ANSYS, Protel, OrCAD, Cadence, L-Edit● Office Software Microsoft Office