

## Mark Khusid

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[www.mkdynamics.net](http://www.mkdynamics.net)

<b>Objective</b>	<b>A challenging position in electrical and computer engineering</b>	
<b>University Education</b> 1995 – 2000	<b>Polytechnic University, Brooklyn, N.Y.</b> Bachelor of Science in Electrical and Computer Engineering Graduation Date: Spring 2000 GPA: 3.468 / 4.000	
<b>Course Work</b> <b>Polytechnic University</b> 1995 – 2000	Electrical and Electronic Circuit Analysis C, C++, Assembly, and Fortran languages TCP/IP Analysis and Programming Electric Circuit Design and Testing Engineering Design Project	Wireless, Ethernet and ATM Networks Communications Engineering Data Acquisition and LabView VHDL Digital Design Control Systems Engineering
<b>Course Work</b> <b>Coursera.org</b> 2018 – Present	<a href="#">Sensors and Sensor Circuit Design</a> (Coursera Certificate) <a href="#">Motors and Motor Control Circuits</a> (Coursera Certificate) <a href="#">Introduction to Cyberattacks</a> (Coursera Certificate) <a href="#">Cyber Attack Countermeasures</a> (Coursera Certificate) <a href="#">Electric Power Systems</a> (Coursera Certificate) <a href="#">What is Data Science?</a> (Coursera Certificate) <a href="#">Data Science Methodology</a> (Coursera Certificate) <a href="#">Tools for Data Science</a> (Coursera Certificate) <a href="#">Data Analysis with Python</a> (Coursera Certificate) <a href="#">Machine Learning with Python</a> (Coursera Certificate) <a href="#">Python for Data Science, AI and Development</a> (Coursera Certificate) <a href="#">Data Visualization with Python</a> (Coursera Certificate) <a href="#">Databases and SQL for Data Science with Python</a> (Coursera Certificate) <a href="#">Python Project for Data Science</a> (Coursera Certificate)	
<b>Course Work</b> <b>Kaggle.com</b> 2021 – Present	<a href="#">Python</a> (Kaggle Certificate) <a href="#">Pandas</a> (Kaggle Certificate) <a href="#">Data Visualization</a> (Kaggle Certificate) <a href="#">Time Series</a> (Kaggle Certificate) <a href="#">Data Cleaning</a> (Kaggle Certificate) <a href="#">Introduction to Machine Learning</a> (Kaggle Certificate) <a href="#">Introduction to SQL</a> (Kaggle Certificate)	
<b>Course Work</b> <b>Tryhackme.com</b> 2021 - Present	Complete Beginner Learning Path (Tryhackme Certificate) Pre – Security Learning Path (Tryhackme Certificate) Web Fundamentals Learning Path (Tryhackme Certificate) Offensive Pentesting Learning Path (TryHackMe Certificate)	
<b>Honors &amp; Awards</b>	<ul style="list-style-type: none"><li>• Dean’s List, Fall 1996 – June 2000</li><li>• William L. Everitt Student Award of Excellence</li><li>• IEEE Student Branch Award</li><li>• Best Project Award – 1999 Summer Junior Research Internship Program</li><li>• Professor Myron M. Rosenthal Scholarship</li></ul>	

## Employment

- 2/2019 – Present      **Moog, Inc., East Aurora, N.Y.**  
**Electrical Design Engineer**
- Designed mixed-signal circuit card assemblies launch vehicle applications
  - Participated in system integration testing and control loop closure activities for Electronic Control Units for launch vehicle applications
  - Developed combination of Pspice, Python, Fortran and Jupyter Notebooks to analyze complex circuits and Electronics Control Unit subsystems
  - Performed worst – case circuit analysis using in – depth custom component models
  - Prepared and presented designs to customers
- 1/2014 – 9/2018      **Electrical Engineering Consultant**
- Consulted on and designed novel devices for solar power applications
  - Constructed prototypes from concept to testing phase using engineering best practices
  - Used LTSpice to simulate designs and verify concordance with test results from built prototypes
  - Implemented out-of-the-box solutions to solve design and testing challenges in small scale and unique solar power applications
- 7/2007 – 12/2013      **Moog, Inc., East Aurora, N.Y.**  
**Electrical Design Engineer**
- Designed analog and power circuit card assemblies for mission-critical Electronic Control Units for the Taurus II, Delta IV and Centaur Launch Vehicles
  - Designed, tested and implemented all-opamp Inductive Simulator for simulating servovalve dynamic response
  - Designed test fixtures for 787 Aircraft program
  - Analyzed complex circuits using PSpice, MathCAD and Matlab analysis software
  - Prepared and presented designs to customers
- 1/2007 – 7/2007      **Moog, Inc., East Aurora, N.Y.**  
**Engineering Technician**
- Constructed test fixtures to test flight critical electronic circuit boards
  - Coordinated with engineering to optimize test fixture construction and test procedures
  - Performed development and production testing of flight critical electronic circuit boards
- 2/2006 – 9/2006      **Keller Technology Corporation, Inc., Tonawanda, N.Y.**  
**Electrical Controls Engineer**
- Designed electrical control systems for novel and complete manufacturing machinery
  - Prepared drawing package of electrical schematics in AutoCAD Electrical 2006
  - Researched and documented cost estimates to design and fabricate electrical control systems in response to user requirement specifications
- 3/2003-2/2006      **MK Buffalo Unlimited, LLC, Buffalo, N.Y.**  
**Real Estate Investor**
- Acquired, rehabilitated and tenanted investment properties in the Buffalo, N.Y. area
  - Communicated with accountants, attorneys, brokers and other business consultants and acquired knowledge of their respective fields
  - Managed costs and rental income to insure business profitability
  - Acquired knowledge and skill in financial statements and business computer software
- 9/2000 – 3/2003      **Space Technology Branch, US Army CECOM, Fort Monmouth, N.J.**  
**Computer Engineer**
- Designed, assembled, configured and installed mission-critical computer systems in fixed, Army vehicular and airborne assets
  - Performed extensive design, construction and field testing of Army tactical Wireless RF and Optical communications systems
  - Soldered and assembled prototype Army electronic, optical and RF circuits and systems
  - Configured routers, switches and transceiver communications components
  - Spliced and connectorized Army and commercial optical fiber cables and network cables

1/1999 – 6/2000	<b>MP3L Laboratory, Polytechnic University, Brooklyn, N.Y.</b> <b>Research Assistant</b> <ul style="list-style-type: none"> <li>Assembled experimental apparatus to study optical microresonators</li> <li>Worked with laser diodes, optical fibers and interferometers</li> <li>Machined an optical fiber – microsphere coupler for telecommunications applications</li> </ul>
5/1997 – 8/1997	<b>Markperi International Enterprises Inc., Islandia, N.Y.</b> <b>CAD / Computer Consultant</b> <ul style="list-style-type: none"> <li>Drafted electrical schematics and machine parts utilizing AutoCAD</li> <li>Coordinated with technicians to improve existing drawings</li> <li>Installed and maintained network over company computer systems</li> </ul>
<b>Publications</b>	<p>Neil J. Vallesterio, <b>Mark Khusid</b>, Narasimha S. Prasad, John C. Carrano, George Duchak, Jennifer C. Ricklin, Mikhail A. Vorontsov, "Free-space optical communication systems (FOCUS): an Army overview," Proc. SPIE 4821, Free-Space Laser Communication and Laser Imaging II, (9 December 2002); <a href="https://doi.org/10.1117/12.450522">https://doi.org/10.1117/12.450522</a></p> <p>Narasimha S. Prasad, Patrick T Kratovil, Sara C. Tucker, Neil J. Vallesterio, <b>Mark Khusid</b>, "Free-space optical communication link performance enhancement via modified receiver geometric characteristics," Proc. SPIE 5160, Free-Space Laser Communication and Active Laser Illumination III, (27 January 2004); <a href="https://doi.org/10.1117/12.510630">https://doi.org/10.1117/12.510630</a></p>
<b>Special Skills</b>	<ul style="list-style-type: none"> <li>Binary reverse engineering, cybersecurity tradecraft, vulnerability analysis, exploit development, writing shellcode for x86-64, x86 and ARM processors</li> <li>Proficient in basic web page design, web server operations, Amazon Web Services server administration, Docker Container deployment, and OpenVPN server administration</li> <li>Webmaster for <a href="http://www.mkdynamics.net">www.mkdynamics.net</a> and a Jupyter Lab server</li> <li>Proficient in Red Hat Fedora and Debian based Linux such as Fedora Core, Kali, Parrot OS, and Ubuntu, Whonix and TAILS</li> <li>Proficient in Python, C/C++, x86, x86-64 and ARM Assembly, Pascal and Fortran programming languages. Knowledgeable in the Ada programming language.</li> <li>Proficient in the Numpy, Pandas and ipywidgets extensions to the Python programming language</li> <li>Proficient in lathe and milling machine operations, electronic circuit design, soldering and construction, computer assembly and troubleshooting, automotive maintenance and repair</li> </ul>
<b>Hobbies</b>	<ul style="list-style-type: none"> <li>Practicing penetration testing and Capture The Flag competitions on HackTheBox.eu, Tryhackme.com and Pentester Academy</li> <li>Licensed Amateur Radio Operator with Extra Class license. Licensed Volunteer Examiner by ARRL, Volunteer Exam Coordinator</li> <li>Data communications using the AX25 protocol over TCP/IP protocol on VHF Ham radios and Broadband Hamnet</li> <li>Mixing Python and Fortran code in the Jupyter Lab development environment</li> <li>Raspberry Pi projects</li> <li>Black Belt (1<sup>st</sup> Degree) in Tae Kwon Do, Black Belt (1<sup>st</sup> Degree) in Krav Maga, Shaolin Kungfu hobbyist, weight lifting and functional training, camping, primitive survival and self-sufficiency</li> </ul>
<b>References</b>	Available upon request