

## Mark Khusid

566 Highland Avenue

Buffalo, NY 14223

Cellphone (716)392-9908

[markkhusid@protonmail.com](mailto:markkhusid@protonmail.com)

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

<b>Objective</b>	<b>A challenging position in computer and information systems security.</b>	
<b>Online Education</b>	<a href="https://www.coursera.org">Coursera.org</a> <a href="#">Introduction to Cyberattacks</a> <a href="#">Cyber Attack Countermeasures</a> <a href="#">Sensors and Sensor Circuit Design</a>  <a href="#">Pentester Academy</a> Python for Pentesters x86 Assembly Language and Shellcoding on Linux x86_64 Assembly Language and Shellcoding on Linux <a href="#">SecurityTube Assembly Language Megaprimer for Linux</a> <a href="#">SecurityTube Buffer Overflows Megaprimer for Linux</a>	
<b>Literary Education</b> 12/2013 – Present	<b>Gray Hat Hacking The Ethical Hacker's Handbook, Fourth Edition</b> Authors: Daniel Regalado, Shon Harris, Allen Harper, Chris Eagle, Jonathan Ness, Branko Spasojevic, Ryan Linn, Stephen Sims  <b>The Hacker Playbook 3: Practical Guide To Penetration Testing, Red Team Edition</b> Author: Peter Kim, May 2, 2018  <b>Penetration Testing: A Hands-On Introduction to Hacking, 1st Edition</b> Author: Georgia Weidman, 2014  <b>Black Hat Python: Python Programming for Hackers and Pentesters</b> Author: Justin Seitz, December 2014	
<b>University Education</b> 1995 – 2000	<b>Polytechnic University, Brooklyn, N.Y.</b> Bachelor of Science in Electrical Engineering and Bachelor of Science in Computer Engineering Graduation Date: Spring 2000 GPA: 3.50 / 4.00	
<b>Course Work Polytechnic University</b> 1995 – 2000	Electric 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 VHDL Digital Design Control Systems Engineering
<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>	
<b>Employment</b> 2/2019 – 12/2021	<b>Moog, Inc., East Aurora, N.Y.</b> <b>Electrical Design Development Engineer</b> <ul style="list-style-type: none"><li>• Designed mixed-signal circuit card assemblies for launch vehicle applications</li><li>• Participated in system integration testing and control loop closure activities for Electronic Control Units for launch vehicle applications</li><li>• Developed a combination of PSpice, Python, Fortran within Jupyter Notebooks to analyze complex circuits and Electronics Control Unit subsystems</li><li>• Performed worst – case circuit analysis using in – depth custom component models</li><li>• Prepared and presented designs to customers</li></ul>	

- 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 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      **MP3L Laboratory, Polytechnic University, Brooklyn, N.Y.**  
**Research Assistant**
- Soldered and assembled experimental apparatus to study optical microresonators
  - Worked with laser diodes, optical fibers and interferometers
  - Machined an optical fiber – microsphere coupler to study telecommunications applications
- 5/1997 – 8/1997      **Markperi International Enterprises Inc., Islandia, N.Y.**  
**CAD / Computer Consultant**
- Drafted electrical schematics and machine parts utilizing AutoCAD
  - Coordinated with technicians to improve existing drawings
  - Installed and maintained network over company computer systems

**Publications**

N. J. Vallesterio; **M. Khusid**; N. S. Prasad; LTC J. Carrano; G. Duchak; J. Ricklin; M. Vorontsov; “Free-Space Optical Communications Systems (FOCUS): An Army Overview,” SPIE Photonics West Conference, Free – Space Laser Communication and Imaging II, Seattle, 9-11 January 2002

Prasad, Narasimha S.; Kratovil, Patrick T.; Tucker, Sara C.; Vallesterio, Neil J.; **Khusid, Mark** “Free-Space Optical Communication Link Performance Enhancement via Modified Receiver Geometric Characteristics,” Proceedings of the SPIE, Volume 5160, pp. 483-494 (January 2004)

**Special Skills**

- Learning cybersecurity tradecraft, vulnerability analysis, exploit development, writing shellcode for x86-64, x86 and ARM processors
- Proficient in basic web page design, web server operations, Amazon Web Services server administration, Docker Container deployment, and OpenVPN server administration
- Webmaster for [www.mkdynamics.net](http://www.mkdynamics.net) and a Jupyter Lab server
- Proficient in Red Hat Fedora and Debian based Linux such as Fedora Core, Kali, Parrot OS, and Ubuntu, Whonix and TAILS
- Proficient in Python, C/C++, x86, x86-64 and ARM Assembly, Pascal and Fortran programming languages
- Proficient in the Numpy, Pandas and ipywidgets extensions to the Python programming language
- Proficient in lathe and milling machine operations, electric circuit design, soldering and construction, computer assembly and troubleshooting, automotive maintenance and repair

**Hobbies**

- Practicing penetration testing and Capture The Flag competitions on HackTheBox.eu and Pentester Academy
- Licensed Amateur Radio Operator with Extra Class license. Licensed Volunteer Examiner by ARRL, Volunteer Exam Coordinator
- Data communications using the AX25 protocol over TCP/IP protocol on VHF Ham radios and Broadband Hamnet
- Mixing Python and Fortran code in the Jupyter Lab development environment
- Raspberry Pi projects.
- Black Belt (1<sup>st</sup> Degree) in Tae Kwon Do, Black Belt candidate in Krav Maga, Shaolin Kungfu hobbyist, weight lifting and functional training
- Camping, primitive survival and self-sufficiency

**References**

Available upon request