Mark Khusid

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Objective — **A challenging position in electrical and computer engineering**

University Education (Graduate)
2025 - Present

Arizona State University, Tempe, AZ (ASU Online)
Master of Science in Engineering (Electrical Engineering)
Anticipated Graduation Date: Spring 2028

University Education (Graduate)
2022 - 2025

Arizona State University, Tempe, AZ (ASU Online)
Master of Computer Science (Cybersecurity)
Graduation Date: Summer 2025
Overall Graduate GPA: 3.767 / 4.000

University Education (Undergraduate)
1995 – 2000

Polytechnic University, Brooklyn, NY
Bachelor of Science in Electrical and Computer Engineering
Graduation Date: Spring 2000
GPA: 3.468 / 4.000

Course Work Arizona State University
2022 – 2025

Applied Cryptography
Information Assurance and Security
Software Security
Advanced Network Security
Foundations of Algorithms
Advanced Software Analysis and Design
Artificial Intelligence
Data Mining
Data Visualization
Statistical Machine Learning
Principles of Programming Languages

Course Work Polytechnic University
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
Modern Optics
Wireless, Ethernet and ATM Networks
Communications Engineering
Data Acquisition and LabView
VHDL Digital Design
Control Systems Engineering
Engineering Electromagnetics

Course Work Coursera.org
2018 – 2022

Sensors and Sensor Circuit Design (Coursera Certificate)
Motors and Motor Control Circuits (Coursera Certificate)
Introduction to Cyberattacks (Coursera Certificate)
Cyber Attack Countermeasures (Coursera Certificate)
Electric Power Systems (Coursera Certificate)
What is Data Science? (Coursera Certificate)
Data Science Methodology (Coursera Certificate)
Tools for Data Science (Coursera Certificate)
Data Analysis with Python (Coursera Certificate)
Machine Learning with Python (Coursera Certificate)
Python for Data Science, AI and Development (Coursera Certificate)
Data Visualization with Python (Coursera Certificate)
Databases and SQL for Data Science with Python (Coursera Certificate)
Python Project for Data Science (Coursera Certificate)
Applied Data Science Capstone (Coursera Certificate) Github Link to Project
IBM Data Science Specialization (Coursera Specialization)

Course Work
Kaggle.com
2021 – 2022

Python (Kaggle Certificate)
Pandas (Kaggle Certificate)
Data Visualization (Kaggle Certificate)
Time Series (Kaggle Certificate)
Data Cleaning (Kaggle Certificate)
Introduction to Machine Learning (Kaggle Certificate)
Introduction to SQL (Kaggle Certificate)

Course Work
Tryhackme.com
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)

Honors & Awards

- Dean's List, Fall 1996 – June 2000
- William L. Everitt Student Award of Excellence
- IEEE Student Branch Award
- Best Project Award – 1999 Summer Junior Research Internship Program
- Professor Myron M. Rosenthal Scholarship

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 **MP3L Laboratory, Polytechnic University, Brooklyn, N.Y.**
Research Assistant

- Assembled experimental apparatus to study optical microresonators
- Worked with laser diodes, optical fibers and interferometers
- Machined an optical fiber – microsphere coupler for 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

Neil J. Vallestero, **Mark Khusid**, 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); https://doi.org/10.1117/12.450522

Narasimha S. Prasad, Patrick T Kratovil, Sara C. Tucker, Neil J. Vallestero, **Mark Khusid**, "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); https://doi.org/10.1117/12.510630

Special Skills

- Binary reverse engineering, 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 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, Fortran and Pascal programming languages. Knowledgeable in the Ada programming language.
- Proficient in the Numpy, Pandas and ipywidgets extensions to the Python programming language
- Proficient in lathe and milling machine operations, electronic 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, Tryhackme.com 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 (2nd Degree) in Tae Kwon Do, Black Belt (2nd Degree) in Krav Maga, Shaolin Kungfu hobbyist, weight lifting and functional training, camping, primitive survival and self-sufficiency

References Available upon request