Synopsis

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Location:	4010 Flory Ave #2 El Paso, TX 79904-5635
Relocation:	Yes
Visa Status:	US citizen
Notice:	1 month
Attributes:	20 years semiconductor processing / characterization 12 years data science in financial markets 8 years pharmaceutical development
Education:	BS Chemical Engineering 1984 MS Material Science 1999 MS Physical Chemistry 2003

Overview

Going forward, I would like to apply my knowledge to additive manufacturing, novel electronics, synthetic biology, biochemical sensors, or artificial intelligence themes.

Given the privilege, my degrees in Chemical Engineering and Physical Chemistry, along with a solid research background in Materials Science, provide ample experience to perform the duties required in the marketplace. A majority of semiconductor projects I encountered, involved either processing or characterization, so I am strong in both areas.

With over 20 years as a Research Scientist, I have coauthored roughly 16 papers, half under the direction of John Haggerty at MIT, and the remainder with support from Klaus Bachmann at NC State. During the course of research, I have: (1) invented a patentable 'symmetric proportional control' for laser cavity optimization, (2) fabricated the first laser-induced, chemical vapor deposition, amorphous silicon solar cells, (3) developed a microwave plasma, chemical vapor deposition system, to create polycrystalline diamond from methane gas, in a regime where kinetics dominates over thermodynamics, (4) monitored the surface evolution of compound semiconductor heterostructure films, in a chemical beam epitaxy system, with plane polarized reflectance spectroscopy, pioneered by our research group.

In parallel with my academic career, I plunged into the world of macroeconomics, human behavior, and statistical analysis, through stock and futures trading. Using quantitative investment strategies, participants seek high probability trades. To handle market data, I applied digital signal processing techniques, in the spirit of John Ehlers, an Electrical Engineer from Raytheon. Along the way, I combined statistics with digital signal processing to produce highly responsive indicators, enhancing trade signal clarity. By immersing myself in the data science of financial markets, and backtesting of trading strategies, I have improved my computer programming skills, and established more techniques to deal with data interpretation.

Going forward, I would like to apply my knowledge to additive manufacturing, novel electronics, synthetic biology, biochemical sensors, or artificial intelligence themes. I invite you to visit my personal website to view current literature and computational projects. If you have any concerns, feel free to contact me.

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Profile

Chemical Engineer seeking a Process Engineer, Research & Development, or Data Scientist role, leveraging my core strengths in:

crystal growth	plasma chemistry	synthetic biology
surface science	laser excitation	biochemical sensors
chemical vapor deposition	optical characterization	computer modeling
molecular beam epitaxy	electrochemical methods	statistical analysis
semiconductor devices	additive manufacturing	process control

Thesis

Real Time Reflectometry of Ga–based Compound Semiconductor Films on Silicon during Plasma Enhanced Molecular Beam Epitaxy, NCSU Materials Science Dept: **1999**.

Clifton Profile

Character

Strategic	faced with any given scenario, can quickly spot the relevant patterns.
Learner	have a great desire to learn and want to continuously improve.
Ideation	able to find connections between seemingly disparate phenomena.
Futuristic	inspired by the future and what could be.
Self-Assurance	possess an inner compass to instill confidence in decision making.

Experience

Prompt Engineer, Outlier AI: San Francisco, CA (10/24 to present)

- ▸ Generate prompt questions to evaluate AI model responses to python programming tasks.
- ▸ Write and rewrite AI model responses to prompt questions with accurate python code.

Network Member, Gerson Lehrman Group: Austin, TX (4/20 to present)

- ▸ Appear as an expert witness in a patent lawsuit regarding diamond thin films.
- ▸ Provide scientific insight in a myriad of semiconductor issues.

Quantum Trader, Independent (5/84 to present)

- ▸ Broaden the scope to include both fundamental evaluation and technical analysis.
- ▸ Combine statistics with digital signal processing to produce indicators with better trade signal clarity.
- ▸ Implement python programming to learn hedge fund strategies.
- ▸ Evaluate fundamental aspects of technology and pharmaceutical sectors.
- ▸ Deploy venture capital principles to choose lucrative issues, including initial pubic offerings.

Laboratory Technician, Genesis Biotechnology Group: Hamilton, NJ (7/20 to 10/21)

- ▸ Process COVID-19 nasal swabs in Biological Safety Level 2 hoods under CDC guidelines.
- ▸ Extract nucleic acid samples from blood, urine, spinal, and other body fluids using Vacuum Filtration or Magnetic Bead separation.
- ▸ Perform static Polymerase Chain Reaction (PCR) and dynamic PCR (qPCR).

Education

MS *Physical Chemistry*	Rutgers: New Brunswick, NJ	Jan 2003
MS *Material Science*	North Carolina State: Raleigh, NC	unofficial
BS *Chemical Engineering*	Texas A&M: College Station, TX	May 1984
HS *Diploma*	Waltham High: Waltham, MA	Jun 1979

Honor

Bausch & Lomb Science Award