Austin M. Shearin

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Summary

Data scientist/engineer with demonstrated leadership capabilities, 7 years industry work experience, and a strong applied physics and materials science background education. Experience includes establishing extract, transform, load (ETL) processes on-premises and in the cloud, deploying web applications for data management and analysis, and developing custom models for unique datasets. Highly skilled solutions architect with demonstrated performance on several types of projects with various data sources from static files to IoT sensing systems.

Education

M.S. in Materials Science — May 2016
GPA: 3.97
Missouri State University, Springfield, MO

B.S. in Physics/Materials Physics, *magna cum laude* — December 2014
GPA: 3.89
Missouri State University, Springfield, MO

Work Experience

SynTouch, Inc.
Director of Data Science — 2022 - Present

- Work directly with customers to deliver solutions to haptics related issues
  - Design experimental studies to collect relevant data
  - Perform analysis utilizing statistics, machine learning, and/or modeling
  - Deliver reports containing actionable insights and recommendations
- Define the functionality of next generation software solutions
  - Established a new revenue stream for the company by developing and deploying multiple web-based applications to assist customers
  - Established a cloud-based infrastructure capable of connecting test equipment to a centralized resource for data transport and analysis
- Mentoring and coaching of fellow software developers

Brewer Science, Inc.
Associate/Sr. Device Systems Engineer – Team Leader — 2018 – 2022

- Lead a team consisting of data scientists, data engineers, electrical engineers, and front-end developers
- Team focus was on commercialization of IoT sensor systems which transmit data to the cloud to provide actionable feedback to a customer
- Project manager and principal investigator of several projects including gas, water, and temperature sensing for Industrial Internet of Things and environmental monitoring
- Worked with customers, beta phase partners, and joint development members
- Projects include data transport, management, storage, analysis, and interpretation utilizing modeling and machine learning to perform process monitoring and predictive forecasting

Research Associate II/III — 2016 – 2018

- Performed designed experiments to improve sensor performance
- Lead process engineering efforts to increase manufacturing reliability
- Developed novel testing methods to characterize printed sensors
- Implemented automated test systems to collect sensor data
- Utilized first physical principles to perform root-cause analysis

Technical Certifications

Python Programmer Track
DataCamp
Software engineering, unit testing, parallel processing

Data Analyst with Python Track
DataCamp
Data import, export, transport, cleaning, formatting, explorative data analysis

Data Scientist with Python Track
DataCamp
Relational databases, hypothesis testing, machine learning

Statistical Thinking for Industrial Problem Solving
SAS
EDA, DOE, quality methods, correlation/regression, statistics

PM Frameworks

Agile Scrum
Kanban

Technical Skills

Python	●●●●●
Microsoft Office	●●●●●
SQL	●●●●●
SSH/FTP/SFTP	●●●●●
Technical Writing	●●●●●
Version Control/Git	●●●●●
Machine Learning	●●●●○
Statistics	●●●●○
Amazon Web Services	●●●●○
Docker	●●●●○
JMP/JSL	●●●●○
Design of Experiments	●●●●○
AutoCAD	●●●○○
Electrical Measurements	●●●○○
Physical Vapor Deposition	●●●○○
Spectroscopy	●●●○○
Microscopy	●●●○○
Crystallography	●●●○○

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Work Experience Continued

Missouri State University

Per Course Instructor 2019

- Instructed Introduction to Physics I (PHY 123) course and lab

Graduate Research Assistant 2014 – 2016

- Obtained the NASA-MOSGC fellowship for M.S. thesis research project
- Funded research was focused on thin film transition metal dichalcogenide materials with applications in space travel and habitation
- Secondary research projects included metal oxides for renewable energy or drug delivery and nano-bio interactions of graphene with different amino acids
- Mentored undergraduate students in learning different synthesis and characterization techniques

Undergraduate Research Assistant 2011 – 2014

- Assisted graduate students in materials synthesis and analysis techniques
- Exposed to working with metal oxide and nano carbon materials in thin film and nano powder morphology

BearCLAW Math Tutor 2012 – 2014

- Math tutoring of peers from algebra to statistics to differential equations

Wright Patterson Air Force Research Lab

Research Fellow 2015

- Collaborated with resident research scientists to perform research aimed at device development
- Researched interactions between carbonaceous defects and amino acids with applications towards targeted drug delivery and biosensor systems

Research Publications

Anagh Bhaumik, Austin M. Shearin, Rishi Patel, and Kartik Ghosh. Significant enhancement of optical absorption through nanostructuring of copper based oxide semiconductors: Possible future materials for solar energy applications
J. Phys. Chem. C. Nanomater. Interfaces 118, 18631–18639 (2014)

A. Bhaumik, A. M. Shearin, R. Delong, A. Wanekaya, and K. Ghosh. Probing the interaction at the nano − bio interface using Raman spectroscopy: ZnO nanoparticles and adenosine triphosphate biomolecules
Phys. Chem. Chem. Phys. 16, 11054–11066 (2014)

Presentations in Conferences, Meetings, and Workshops

Nanofrontiers Symposium, 2011, 2012
American Physical Society, 2014
NASA-Missouri Space Grant Consortium Annual Meeting, 2015, 2016
INBRE Conference, 2012, 2013
Argonne National Laboratory Research Symposium, 2012, 2013, 2014
Material Research Society, 2014, 2016
FLEX, 2017
AATCC Textile Discovery Summit, 2022

References

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