Samir Mukhida

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SUMMARY

Samir is an engineering professional obsessed with pixel-perfect product ownership. He is a pioneer in applying laser-induced fluorescence (LIF) instrumentation for pure water analytics. Samir is currently pursuing a MS in Computer Science from Georgia Tech, completing coursework in the Interactive/Artificial Intelligence specialization.

EXPERIENCE

METTLER TOLEDO | ADVANCED ANALYTICS DEVELOPMENT ENGINEER

Sep '21 - Present | San Diego, CA & Boston, MA (Remote)

- Hybrid R&D and Marketing role, using software development and data analytics toolset to advance strategic growth projects across the entire Thornton pure water analytics portfolio (in-process sensors, transmitters, and analyzers for chemical, biologic, and physical parameters). Develop the technical strategies to influence organization thought leadership.
- Provide third level support regarding RMS (real-time microbial system) and associated technologies, with specialization in data integration and industrial communication.
- Primary test suite developer for RMS software since 2014, with focus on OSI layer 4 and higher.
- Implemented and maintained time-series data analytics workflow using SaaS tools to enhance analyst productivity.

METTLER TOLEDO | TECHNOLOGY & APPLICATIONS CONSULTANT

Jun '19 - Sep '21 | Los Angeles, San Diego, CA & Boston, MA (Remote)

- Worked with Product Managers to develop opportunities, identifying and developing high value application solutions.
- Transferred knowledge and data from application feasibility studies, industry applications, and technical literature for future product development. Participated in sustaining engineering and targeted product/process improvement projects.
- Maintained knowledge of competitive and complementary technologies and solutions.

METTLER TOLEDO | GLOBAL APPLICATIONS ENGINEER

Jul '17 - Jun '19 | Los Angeles, CA & Boston, MA (Remote)

- Worldwide Subject Matter Expert for RMS (real-time microbial system) implementation in Pharmaceutical manufacturing.
- Leveraged by local marketing organizations along with producing organization to solve critical implementation challenges, participate in the sales process, provide training, and deliver smooth integration experience for strategic global accounts.
- Develop and support novel middleware solutions permitting use of instruments in new or existing smart manufacturing infrastructure. Liaise with controls and automation engineers to deliver the desired functionality to end-users.

METTLER TOLEDO | TECHNICAL SERVICE MANAGER

Sep '15 – 'Jul 17 | Tucson, AZ

- Technical adviser to product management, generating detailed technical manuscripts including whitepapers, manuals, SOPs, IQ/OQ/PQ, as well template marketing material.
- Enhanced product's LabVIEW and Windows Embedded-based UI/UX, including new functionalities for field service.

INSTANT BIOSCAN | SERVICE MANAGER

Feb '15 – Sep '15| Tucson, AZ

- Field and depot service program management.
- Primary integration support for several top ten biopharmaceutical and personal-care companies, including project management for worldwide deployment and validation efforts at global leading biotechnology company.
- Instrumental in supporting company growth and eventual $30M asset sale of the startup to Mettler-Toledo Thornton.

INSTANT BIOSCAN | ENGINEER

Sep '13 – Feb '15 | Tucson, AZ

- Early member of this startup, which developed, manufactured, sold, and serviced RMS (real-time microbial system) instruments—process analyzers which enumerate microbial cells within ultra-pure water using optical methods.

SKILLS

TECHNICAL SKILLS

Proficient with:

Python • Visual Basic • LabVIEW • Java • UNIX/Shell • DOS/Batch • PLC • Modbus • MS Office • Hand Soldering

Familiar with:

Perl • C/C# • HTML • CSS • SQL • WordPress • Agile • Git • Docker • Arduino • GIMP • United States Pharmacopoeia (USP)

SOFT SKILLS

Product Management • Research • Heuristics • Wireframes & Prototypes • CRM/ERP • Acquisitions • Training • Leadership • French

TECHNICAL PROJECTS

WATER SYSTEM SCADA & HISTORIAN | Python (pyModbusTCP, Serial), mySQL
June '22 – Ongoing | METTLER TOLEDO
Implemented Secure Control and Data Acquisition (SCADA) system to monitor instrument data from R&D facility water systems. Linked time-series mySQL database to Seeq SaaS tool for data visualization and analytics.

PRODUCT TRACKING DATABASE | Python (open-cv, re), Tesseract OCR, Microsoft (Power Automate, Azure)
April '21 – Nov '21 | METTLER TOLEDO
Building modules and end-to-end automation to extract, clean, and store product Information from manufacturing documentation, service reports, and diagnostic files to support data-driven product management.

DATA ANALYSIS TOOLS | Python (Pandas, NumPy, Matplotlib, Tk)
Mar '18 – Present | METTLER TOLEDO
Built a fully-documented visual analytics GUI in Python using ubiquitous data science libraries. Used by other team members and forked by R&D for their analytical needs. Leveraged fbProphet library in codebase for tunable time-series modeling and forecasting.

LABORATORY AUTOMATION | Python (Tk, open-cv), VNC, ModbusTCP
Oct '19 – Mar '21 | METTLER TOLEDO
Built a fully-documented remote control driver for analyzer product, and GUI application to automate lab experiments.

PRODUCT DATA INTEGRITY | 21 CFR Part 11, Windows Embedded Standard 7
Dec '18 – Mar '19| METTLER TOLEDO
Specify, develop, and test product firmware with enhanced data Integrity features for 21 CFR Part 11 customer compliance.

GUI SIMULATOR | Visual Basic
Nov '16 – Dec '19 | METTLER TOLEDO
Built simulation application and installer for analyzer product's GUI, permitting demonstration of product's features and interface with minimal hardware dependencies. Used by sales groups around the world. Installed on products at tradeshows and sales laptops.

RESEARCH

ARIAS LAB | MIDWESTERN U, COLLEGE OF PHARMACY
Sep '11– Apr '12 | Glendale, AZ
Drug discovery research involving β4 nAChRs, 18-MC, and CHANTIX (varenicline). Administered cocaine injections to test animals and conducted motor-physical data collection and analysis in Prism [1].

RHOADS LAB | U ARIZONA, COLLEGE OF AGRICULTURE & LIFE SCIENCE
Aug '09 – May '10 | Tucson, AZ
Molecular and computational biology educational curriculum development as part of the Genomics Education National Initiative. Developed ligation-independent gene cloning protocols.

EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY
MS–COMPUTER SCIENCE
In Progress | Atlanta, GA
Human Computer Interaction, (C) Cyber Physical System Security; (Python) Computer Networks, Robotics AI Techniques, Knowledge Based AI; (Java) Software Development Process

THE UNIVERSITY OF ARIZONA
BS—MOLECULAR/CELLULAR BIOLOGY, PLANT SCI
Dec '10 | Tucson, AZ
Dean's List Honorable Mention, President's Award, AIMS Award

CERTIFICATION

FEDERAL COMMUNICATIONS COMMISSION (FCC)
TECHNICIAN–AMATEUR RADIO (HAM)
KI7PUB

FEDERAL AVIATION AUTHORITY (FAA)
REMOTE PILOT (14 CFR PART 107)
Small Unmanned Aerial – General (Drone)

PUBLICATIONS

[1] S. Mukhida & H. Arias: Role of the β4 nicotinic receptor subunit in the anti-addictive activity of 18-methoxycoronaridine. Abstract & Poster, Federation of American Societies for Experimental Biology. Presented in San Diego, CA Apr '12