



Yousef Bagdadi

204 E. 2nd Ave, Suite 241
San Mateo, CA 94401
(510) 277-7030
ybagdadi@brillouinconsulting.com
www.brillouinconsulting.com



PROFESSIONAL PROFILE

Yousef Bagdadi is a UC Berkeley Master of Engineering graduate in Materials Science and Engineering, with a strong industrial foundation in Mechanical Engineering, bringing a passion for advancing manufacturing and product design. He brings over seven years of experience in mechanical design and simulation of automation systems, complemented by large-scale construction engineering experience. Work spans designing robotic workstations for automotive manufacturing to developing sustainable façade systems and HVAC solutions for major international infrastructure projects, including those supporting the FIFA World Cup 2022. Yousef has technical expertise includes SolidWorks, FEA, ANSYS Fluent, Power BI, and engineering drawing, applied to transform concepts into practical, high-impact solutions—ranging from optimizing automotive structures to reducing project costs through design efficiency. Yousef demonstrates a strong affinity for the full product lifecycle, from problem definition and prototyping through rigorous testing and iterative development in cross-functional team environments. Yousef has research and development experience including additive manufacturing of high-viscosity materials through carbon fiber resin optimization, development of temperature-adaptive rooftop coatings to reduce energy consumption, and creation of custom SEM testing environments. Yousef is also committed to mentorship and team development, with a focus on supporting technical growth and knowledge sharing across teams, and continues to pursue opportunities that integrate deep technical expertise with business acumen in advanced manufacturing environments.

POSITIONS

Brillouin Consulting **Manager**

San Francisco, CA
May 2026 - Present

Applies advanced materials science principles to real-world failure analysis and root cause investigations. Utilizes expertise in material reactivity, mechanical behavior, fatigue, and fracture analysis to evaluate cases, develop structured methodologies, and design experimental approaches. Conducts hands-on analysis using tools such as scanning electron microscopy (SEM), performs calculations related to material interactions, and builds testing environments to simulate failure conditions. Collaborates with leadership to refine analytical approaches, incorporates feedback to strengthen technical rigor, and contributes to the development of scientifically sound, defensible conclusions across complex engineering cases. Works on litigated and industrial materials n behalf of clients.

Expert Tooling and Automation **Design Engineer**

Durham, UK
Aug 2017 - Aug 2018

Engineered cutting-edge automation solutions for clients in the automotive and manufacturing industries. Directed the design and manufacturing of automation solutions for clients including Nissan, Lear, 3M and Senstronics utilizing Solidworks, FEA and Microsoft Project to achieve project completion with profit margins above 12%. On-site customer facing meetings to analyze and troubleshoot equipment through manual engineering sketches, resulting in impromptu technical presentations securing additional project scope averaging 60% profit. Developed innovative solutions for die tapered manufacturing combining traditional and 3D printing techniques reducing overall cost of testing equipment securing additional scope of \$350,000 over initial award of \$12,000. Managed the manufacturing and assembly of designed systems to ensure reduction of wasted material, eliminating deviations from project timeline scheduling and saving 26% of potential budget loss. Cross-functional collaboration towards market leads on new project specifications, translating plan design proposals into interactive product shows resulting in business development of \$400,000.

University of Sunderland
Formula Student

Hayward, CA
Sept 2016 - June 2017

Team Leader training and developing diverse backgrounds on vehicle design and manufacturing. Trained Students from technical and other backgrounds in energy transfer, linkage and CAM systems through digestible hands-on sessions at fab-shop providing out of box technical solutions from team members. Provided certified training sessions towards fabrication of carbon fiber notching, CNC milling, post treatment on welding and template creation using Solidworks 3D. Designed Gear shaft suspension and final redesign of radiator system, utilizing FEA and ANSYS Fluent towards material and design optimization, resulting in prototype and wastage savings of GBP 23,000.

Gulf Centre
Senior Business Developer Executive

Doha, QA
Dec 2023 - July 2024

Strategic Techno-Commercial Relationships and Marketing Strategist. Coordinated Cross-Regional Business-partner relationships between Government and key partners, suppliers, clients and consultants generating increased growth in approvals and inquiries towards HVAC and MEP green energy solutions. Developed strategic marketing plans including technical content and resource creation, scheduling, and communication strategies resulting in increased engagement within the regional market. Created new business units with organization towards Firestopping services including training, documentation and partnership deals with global contenders such as Honeywell.

Hilti Qatar
Senior Sales Engineer and Operations Specialist

Doha, QA
Mar 2020 - Nov 2023

Business developer and marketing educator for high visibility civil construction projects. Championed the national launch of the Hilti Eurofox ventilated façade support system. Optimized project design through BIM modeling. Presented project tender to stakeholders and secured advanced funding of \$100,000. Refined client MEP and support systems through reduction of spacing and utilization of portfolio technical data resulting in bill of quantity reduction of 2-4 times forecasted amount, saving roughly \$100,000 per project. Automated the forecasting of raw materials using PowerBI business intelligence software. Eliminated manual inputs and communication roadblocks resulting in reduced human error and increased efficiency of 200%. Educated clients on technical and regulatory applications such as demonstration of sandwich panels decking on Lusail Stadium resulting in increased brand trust and customer loyalty. Executed record breaking 10+Asset service contracts within the first year of joining sales, ensuring an extra 20% of profit per standard item sold in the market per contract. Spearheaded launch of first gas powered tool in the market, penetrating the infrastructure market for a new revenue stream for Hilti Qatar through value engineering. Pioneered and achieved #1 data quality ranking for Hilti Qatar's market organization through cross-functional team collaboration and delegation of process guidelines, ensuring smooth customer communication.

ACADEMIC CREDENTIALS

UC Berkeley
Master of Engineering, Material Science and Engineering

Berkeley, CA
2025

University of Sunderland
Bachelor of Engineering (Hons.) Mechanical Engineering, First Class
with Distinction

Sunderland, UK
2019

SKILLS & CERTIFICATIONS

- Risk Management Certified, Ansys Fluent, CAD, SOLIDWORKS, Statistical Process Control, Product Design, Simulation, Power BI, SEM Analysis, Data Source, Excel, Metallurgical Classification, XPS, Spectroscopy