Asef Islam

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SUMMARY

Experienced and continuously learning researcher and engineer with unique computer science and biomedical data and devices background and record of contributing to innovative, impactful projects in both public and private healthcare and technology sectors

EDUCATION

Stanford University — **Stanford, CA**
Master of Science, Biomedical Data Science — *January 2023 – Present*
Master of Science, Computer Science (3.5/4.0) — *September 2021 – December 2024*

Johns Hopkins University — **Baltimore, MD**
Master of Business Administration — *January 2025 - Present*
Bachelor of Science, Biomedical Engineering and Computer Science (3.9/4.0) — *August 2017 – August 2020*
Societies and Awards: Richard J. Johns Award for Outstanding Achievement in Biomedical Engineering, Dean's Scholarship, Tau Beta Pi, Theta Tau, Biomedical Engineering Society, Dean's List and Graduation Honors

EXPERIENCE

State of California — **Sacramento, CA**
Data Protection Specialist, Health and Human Services — *November 2023 – Present*
- Led implementation of enterprise-wide solutions for data classification and protection and developed web dashboard with PowerBI, Python and Snowflake for continuous monitoring and analytics across a state agency with 2000+ employees

Epic Systems — **Madison, WI**
Software Developer, Home Health Mobile Apps — *May – September 2021*
- Collaborated with cross functional teams to ship key features for remote documentation and secure media capture in Rover mobile app used by nurses in healthcare systems across the world 50% ahead of schedule in multiple quarterly software releases

Qral Group — **San Francisco, CA**
Management Consultant, Biotech/Pharma — *July 2020 – May 2021*
- Served as principal analyst to inform executives on product launch and sales strategy for multi-billion dollar rare disease clients while developing custom ETL pipelines and data warehousing applications to improve analytics efficiency and ROI by over 50%

Bristol Myers Squibb — **Devens, MA**
Automation Engineering Intern, Process Development — *May – July 2020*
- Integrated complex sensors and process control to enhance automated monoclonal antibody production for cancer therapeutics

Avanos Medical — **Alpharetta, GA**
R&D Engineering Intern, Interventional Pain Management Division — *May – Aug 2019*
- Introduced new automated lesion measurement software to improve accuracy and precision while reducing time needed by 90% in testing probes for "COOLIEF*" RF ablation system with $60M in annual sales and supported V&V manufacturing process
- Designed hardware simulation unit allowing hundreds of sales reps to demonstrate device capabilities without biological tissue

Johns Hopkins University Whiting School of Engineering — **Baltimore, MD**
Teaching Assistant, Computer Science Department — *January 2019 – May 2020*
- Mentored 200+ undergraduates in MATLAB & Java courses by debugging complex code and simplifying engineering concepts

Johns Hopkins University Center for Bioengineering Innovation and Design — **Baltimore, MD**
Design Team Co-Founder — *March 2018 – May 2020*
- Invented novel extendable needle using CAD and 3D printing allowing hospitals millions annually in operating room cost savings

Johns Hopkins Medicine, Biomedical Engineering Department — **Baltimore, MD**
Undergraduate Researcher, I-STAR Lab — *January 2018 – May 2020*
- Applied machine learning and computer vision to rapidly diagnose joint osteoarthritis and provide surgical guidance for fractures

UC Davis Air Quality Research Center — **Davis, CA**
Student Researcher, Wexler Lab — *May 2015 – May 2023*
- Developed potential automated early screening tool for autism with machine learning and lung geometry from CT scan data
- Engineered low-cost wind sensor prototypes for EPA's "IMPROVE" network of ~160 international weather monitoring stations

PUBLICATIONS

1. "Comparison of Manual & Automated Measurements of Tracheobronchial Airway Geometry in Three BALB/c Mice" *Anatomical Record • 2017*
2. "Coupled active shape models for automated segmentation & landmark localization in high- resolution CT of the foot & ankle" *SPIE Medical Imaging • 2019*
3. "Quantifying Similarity in Histopathology Images Using Pathology-specific Deep-learned Features" *American Physical Society • 2020*
4. "Diffeomorphic morphometry of the tibio-femoral joint for quantitative assessment of osteoarthritis" *American Physical Society • 2020*
5. "Design Of An Extendable Tuohy Needle For Use In Epidural Anesthesia For Adult Patients Of All Body-mass-indices" *American Society of Anesthesiologists • 2020*
6. "Landmark-free morphometric analysis of knee OA using joint statistical models of bone shape and articular space variability" *Journal of Medical Imaging • 2021*
7. U.S. Patent Application 17/797970, "Extendable Needle" *U.S. Patent Office* • 2021
8. "Can lung airway geometry be used to predict autism? A preliminary machine learning-based study" *Anatomical Record • 2023*
9. "Image Guidance for Robot-Assisted Ankle Fracture Repair" *arXiv Electrical Engineering • 2023*

SELECTED COURSEWORK

Accounting & Financial Reporting · Artificial Intelligence · Algorithms · Biological Models & Simulations · Biomedical Data Science · C/C++ · Cell & Tissue Engineering · Chemistry · Computational Genomics · Computational Medicine · Computation Theory · Computer Graphics and Imaging · Computer Integrated Surgery · Corporate Finance · Cybersecurity · Data Structures · Databases · Differential Equations · Java · Linear Algebra · Signals & Systems · Machine Learning · Marketing · Microeconomics · Multivariate Calculus · Natural Language Understanding · Nonlinear Dynamics · Optimization · Physics · Software Engineering · Statistics · Statistical Learning · Statistical Mechanics · Strategic Management · Systems Biology · Systems & Controls

SKILLS

Software: Java, C, C++, Python, Ruby, Rails, R, MATLAB, SQL, HTML, CSS, Swift, Objective C, C#, Typescript, Javascript, Angular, React, Node, Git, Linux, debugging, AutoCAD, Solidworks,Blender, ETL, scikit-learn, PyTorch, pandas, Alteryx, Tableau, databases, Snowflake, QA testing, Word, Excel, PowerPoint, PowerBI, Azure, Docker, Kubernetes, AWS, VMware, Powershell, ServiceNow, Tenable, Proofpoint, XDR, encryption, Defender, Sentinel
Hardware: Arduino, machine shop, design, rapid prototyping, 3D printing, embedded systems, failure analysis, process control, schematics, circuit design, soldering, networking, computer architecture, server management
Business: Sales, marketing, customer service, communication, ethics, compliance, accounting, CRM, Salesforce, project management, enterprise software, Six Sigma, team building, forecasting, trust and safety
Languages: English (native), Bengali (native), Spanish (intermediate)

VOLUNTEERING

Sutter Roseville Medical Center Information Services — Roseville, CA
Managed patient database and electronic badging system and provided general help to hospital visitors — 2015-2017

Folsom Public Library — Folsom, CA
Staffed information desk and facilitated events for summer reading program — 2013-2015

MISCELLANEOUS

IB Diploma Graduate, 2x American Psychological Association Research Award, UC Davis COSMOS Program Graduate, Statewide Competition Math Awards, Experienced Math Tutor and USSF/CIF Soccer Referee