Ahron Tzvi Verschleisser

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Education

- **Master of Science in Biomedical Engineering** (Expected Graduation: 2024)
  Technion - Israel Institute of Technology
  Thesis under supervision of Prof. Dan Adam: "Begetting B-lines: On the Involvement of the Pleural Membrane in the Physiological Origin of the B-line Artifact"
- **Bachelor of Science in Bioengineering** (Graduation: Dec. 2020)
  University of Maryland, College Park
  Minor: Spanish Language, Culture, and Professional Contexts

Technical Skills

MATLAB (Advanced) | Python (Advanced) | C++ (Beginner) | HTML/CSS/JavaScript (Intermediate)
LabVIEW (Intermediate) | PTC Creo | Onshape | ANSYS LS-Dyna | MATLAB DICOM Viewer
GE Ultrasound Machine | Git | Machine Learning | Signal Processing | Big Data Analytics | Excel/Vba

Experience

- **Clinical Trial Enrollment Program Developer** (UT Southwestern Dept. of Internal Medicine 2021-2022: Dallas, TX)
  • Developed Excel-based program to track enrollees across multiple ***Clinical Trials***
  • Implemented database protections and improved patient record alignment

- **COVID Testing Lab Assistant** (ResourcePath 2020-2021: Sterling, VA)
  • Performed antigen and rapid PCR tests, contributing to ***Public Health*** initiatives
  • Assisted in ***data reporting*** to state health organizations
  • Automated and reduced errors in record digitization with Python and OCR
  • Optimized team workflows and configured prompts and validaton in Excel sheets
  • Ensured data privacy and security compliance in patient data management

Projects

- **Ultrasound B-line Artifact Analysis (Technion - Master's Thesis)**
  • Utilized GE Ultrasound Machine and MATLAB DICOM Viewer for data acquisition and analysis
  • Created novel physical phantom to explain the mechanism of B-line formation
  • Developed FEA models in ANSYS LS-DYNA to simulate vibration propagation
- **Respiration and Heart Rate Analysis System (Technion)**
  • Built a LabVIEW instrument to simultaneously gather and analyze PPG+EEG data
  • Analyzed time signal data to extract Heart Rate and Resperation Rate features
  • Displayed recovery curves to identify the best posture to relax post-excersize
  • Reduced noise and classified rhythms and beat intervals with ***Spectral Filtering***
- **Anki Language Deck Development (Personal 2023-)**
  • Developed and shared open-source language learning resources
  • Presented a breadth of collected knowledge in an engaging way
  • Cross-platform optimization for display on mobile and desktop
- **AI-based Sleep Stage Identification (Technion)**
  • Trained ***Deep Learning*** model in sleep stage classification
  • Developed a segmentation algorithm to leverage various databases for training
- **Expanding Cannula Design (University of Maryland)**
  • Our team (#5) designed an expanding cannula for use in pediatric surgery
  • Utilized the material properties of Nitinol in the expansion mechanism
  • Physical prototyping and modeling in PTC Creo and Onshape
  • Met safety requirements set for the project and mandated by legislation

Language Skills

English: Native

Spanish: Fluent

Hebrew: Literate

Portuguese: Intermediate

Additional Information

- Experience with leveraging AI tools and emerging technologies in Digital Health
- Volunteer Language Learning Night Leader at Rujuum