Shido Nakajima

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EDUCATION

University of Texas at Dallas, Richardson, TX — Jan 2025 – Dec 2026
M.S., Biomedical Engineering — GPA: 4.0/4.0

University of Texas at Dallas, Richardson, TX — Aug 2020 – May 2024
B.S., Biomedical Engineering — GPA: 3.772/4.0

PROJECTS

Deep Learning Model for Age Prediction with Brain MRI
Collaborative work with UT Southwestern

- Python-based deep learning model that predicts the patient age from 3D brain MRI volume, resulted in Mean Absolute Error of 5 years
- Vision AI utilizing modified DenseNet121 model from MONAI (Medical Open Network for AI) library
- End-to-end development: training data preprocessing, model development, and model training/validation

Bleeding Control Trainer with Augmented Reality Interface
Capstone project

- Unity and C# based AR interface on a manikin for training to treat traumatic hemorrhage
- Project Manager: Gantt chart, Microsoft Project, Work Breakdown Structure, and matrices to assess task timeline and risk
- Programmer: coded and designed AR object behavior using C# and Unity

Parasite Trajectory Analysis using Machine Learning techniques

- MATLAB-based trajectory analysis of parasite positional data via detection of movement groups
- Convolutional Neural Network image analysis, Decision Tree, Bagged Decision Tree, and clustering analysis

Personalized Servers and Accessories

- Installed Ubuntu Server on an old laptop for hosting home entertainment
- Built Linux and Arduino based accessories such as signal extender and liquid saturation detector

EXPERIENCE

Texas Biomedical Device Center, UT Dallas — Mar 2025 – present
Software Developer, Research Assistant

- Python-based full stack development of nerve stimulation system used in laboratory research
- ZeroMQ for hardware communication, Pyside6 for GUI, PyQtGraph for bioelectric signal analysis

Neuronal Networks and Interfaces Laboratory, UT Dallas — Jan 2021 – Mar 2023
Research Assistant

- Collection and analysis of neural activity in rat motor cortex
- Applied filters and manual sorting on collected data to separate units of neuron activity from noise
- Handled, habituated, anesthetized, and injected rats to observe change in collection of neural activities

Accelerated Research Initiative Program, UT Austin — Jun 2018 – July 2018
Intern, Research Assistant

- More officially: Indicator Displacement Assay Using a Boronic Acid Host and Acid Analyte
- UV/vis spectrophotometer used to analyze and visualize saturation of targeted reaction substrate
- Adherence to sanitary and safety standards, and communication of methods and results

PUBLICATIONS

Jeakle, E. N., et. al. (2023). Chronic stability of local field potentials using amorphous silicon carbide microelectrode arrays implanted in the rat motor cortex. Micromachines, 14(3), 680. https://doi.org/10.3390/mi14030680

TECHNICAL SKILLS

Machine Learning: PyTorch, MATLAB Deep Learning Toolbox, DenseNet, Convolutional Neural Network
Computer Language: Python, MATLAB, C/C#, bash, LabVIEW, Java, Linux Terminal, powershell
Web Development: AWS, React, Type Script, HTML, CSS, Javascript
Project Management: Microsoft Project, Gantt chart, Work Breakdown Structure
Finite Element Analysis: FEBio, Meshlab, 3D slicer, MATLAB Gibbon
Hardware Design: Inventor/Solidworks (3D CAD), Express PCB
Laboratory: sterilization techniques, rat handling, neural recording, electromyography, bioelectric signal analysis

ADDITIONAL INFORMATION
Eligibility: Permanent resident, Eligible in the U.S. for internships & full-time
Language: English (native) and Japanese (native)
Github: github.com/sNakajima1632