

EDUCATION

- Florida Atlantic University** **2017 – Dec 2022***
SeaTech Research Center, Dania Beach, FL
- **Candidate for PhD in Ocean Engineering**
 - **Dissertation:** “Data-Driven Identification and Control of Turbulent Structures using Deep Neural Networks” - Reinforcement Learning-based control in turbulent fluids simulations using Convolutional Neural Networks and Long Short-Term Memory for drag reduction.
- Florida Atlantic University** **2018**
SeaTech Research Center, Dania Beach, FL
- **M.S. in Ocean Engineering** Earned En Passant while completing courses for my PhD
- Florida Atlantic University** **2010 – 2016**
Boca Raton, FL
- **Bachelor of Science in Ocean Engineering**
 - **Capstone Project:** Full system designed and built prototype of an autonomous surface vehicle capable of GPS navigation and station keeping in dynamic conditions (Electrical Team Lead).

SKILLS

- Fortran, Python, C++, MATLAB, R, SQL
- TensorFlow, Keras, Artificial Neural Networks (CNN, LSTM), Deep Reinforcement Learning, Principal Component Analysis
- Git, Linux, Bash, HPC, MPI, ARM DDT (parallel MPI debugger), Slurm, Tableau

PROFESSIONAL EXPERIENCE

- Course Instructor** **2021**
Florida Atlantic University, Boca Raton, FL
- Taught an undergraduate Fluid Mechanics course (EML3701) to a class of 30 students (in-person and remote).
- Graduate Intern** **2018**
Naval Research Laboratory, Stennis Space Center, MS
- Developed simulations using an open source CFD software for rogue wave and wind interaction using High-Performance Computing.
- Engineering Technician** **2014-2015**
Agilis Engineering, Palm Beach Gardens, FL
- Assembled computer monitoring and signal conditioning systems used on GE turbines for NextEra and analyzed real-time turbine data for monthly reports for Florida Power and Light.

RESEARCH

- Publications**
- Jagodinski, E., Zhu, X., Verma, S., **Data-driven identification of dynamically important regions in turbulent flows using 3D Convolutional Neural Networks** (*submitted*) Autonomously identified critical regions in turbulent flow using 3D convolutional neural networks and a custom modified interpretation technique. Applied advanced data science methods to analyze efficacy of the technique.
- Conference Presentations**
- **Data-Driven blowing-suction control in a turbulent channel flow.** APS Division of Fluid Dynamics (2021)
 - **Convolutional neural networks for identifying coherent turbulent structures.** APS Division of Fluid Dynamics (2019)
- Conference Posters**
- **Turbulent flow identification using 3D convolutional neural networks** FAU Data-Driven Science and AI Conference (2022)

CERTIFICATIONS

- **Google Data Analytics Specialization** (2022) A professional certificate through Coursera on preparing, processing, analyzing and presenting data. (SQL, Tableau, R)
- **Offshore Engineering Graduate Certificate** (2018) A graduate level specialization. Courses: Advanced Hydrodynamics, Offshore Structures, Hydrodynamics of Ship Design.