

Timothy L.J. Stewart

Ai Research Engineer

Seeker of Esoterics | AI | Robotics | Cyber | President at $\Xi|\Xi v\wedge T\Xi$ | Founder, CEO Hello Pay Inc. | Combat Veteran

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TECHNICAL SKILLS



SOFT SKILLS



WORK EXPERIENCE

Research Engineer Signature Research Inc.

07/2018 - Present

Intelligence Contractor

Achievements/Tasks

- Research, architect and implement deep learning and data visualization software utilizing TensorFlow, Python, Matlab, C/C++, Qt, Unity3D, UE4 and 3D graphic frameworks for data analysis and modeling of sensor technologies covering the breadth of the electromagnetic spectrum.
- Research and program computational parallel physics solvers in Python, Matlab, C/C++, Julia.
- Research electromagnetic signature phenomenology of empirical and synthetic sensor data.
- Lead, design, build, configure and secure \$200K High Performance Kraken Computing Cluster to DoD DISA STIG cybersecurity standards passing government inspections for Classified Processing, improving capabilities, analysis, and deliverables.
- Lead, design, build, configure and secure GPU accelerated systems for TensorFlow deep learning processing on sensor data.
- Lead, configure, deploy and secure docker images and virtualization infrastructure for deep learning, software engineering and services.
- Secure systems and networks to DoD DISA STIG cybersecurity standards, helping Signature Research, Inc. receive the James S. Cogswell Award for outstanding Industrial Security Achievement, less than 1% are annually selected to receive this award.
- Lead implementation of Git version control workflows and CI/CD infrastructure on RAID server, increasing company collaboration, ensuring software integrity and protecting against data loss.
- Software development life cycles adhering to Agile Scrum methodology.
- Develop wireless UART communication protocol as a C++ API for real-time gimbal control.

WORK EXPERIENCE

Board President

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01/2019 - Present

Non-Profit Organization

Achievements/Tasks

- The Elevate mission is to cultivate a culture of compassion and creativity for communities to connect and thrive.
- Inspiring personal growth and local development through organized events and public speaking on STEM, Art, Athletics and Entrepreneurship, as well as sponsoring and mentoring youth programs, especially for children in the Foster Care System.
- Annual fundraising for scholarships, such as the Dianna Japenga Foster Love Scholarship awarded to foster kids that show an aptitude and desire for creativity, compassion and motivation to pursue higher education in a STEAM field to Elevate their community.

Founder, CEO

Hello Pay Inc.

07/2016 - Present

Full-service Hardware and Software Engineering Company

Achievements/Tasks

- Research, design, implement and test scalable robust software and hardware solutions.
- Research and Consult on emerging technologies, product development and prototypes.
- Consult with CEO's and stakeholders on proposal, project status, schedule and technical milestones.
- Infrastructure setup, including servers, database management, system backups and cybersecurity for websites receiving up to 1,000,000 monthly visits.
- Implement code versioning workflows using Git increasing productivity and collaboration across companies and teams.
- Full-Stack Web, Android, iOS development and App Store deployment.

Graduate Computer Science Teaching Assistant

University of West Florida

08/2019 - 12/2019

Achievements/Tasks

- Data Structures and Algorithms in C Programming.
- Systems and Networks in C Programming.

Mathematics Tutor

Northwest Florida State College

08/2012 - 05/2017

Achievements/Tasks

- Calculus 3, Calculus 2, Calculus 1, Differential Equations, Statistics, Trigonometry, and Algebra tutoring.
- Opening and closing of Northwest Florida State College facilities.
- Proctoring examinations.

Manager, Anesthesia Surgical Department

United States Air Force, Eglin AFB FL

05/2011 - 12/2012

Achievements/Tasks

- Lead and mentored personnel to achieve objectives in fast paced, high stress surgical environments.
- Managed \$10M worth of mission critical surgical equipment, surgical supplies and anesthetics.
- Researched and prepared acquisitions up to \$1M for Eglin Surgical Operating Room Equipment.

Manager, Pain Clinic

United States Air Force, Eglin AFB FL

05/2011 - 12/2012

Achievements/Tasks

- Started, from the ground up, Eglin AFB first Pain Management Clinic; managing interdisciplinary teams, guiding it to first accreditation and certification by The Joint Commission.
- Present patient outcomes and clinical impact to Executives and Base Commander to secure clinical funding.
- Researched and prepared acquisitions up to \$1M for Eglin newly accredited Pain Management Clinic.
- Managed nurses, technicians and protocols, working closely with anesthesiologist and surgeons to achieve clinical objectives.

WORK EXPERIENCE

Surgical Technologist

United States Air Force, Eglin AFB FL

11/2007 - 12/2012

Achievements/Tasks

- Afghanistan deployment to the Central Allied Hospital for Combat Trauma Surgery.
- Trauma training at Johns Hopkins Trauma Resuscitation Unit.
- USAF Leadership School.
- Assist and perform under high pressure in critical surgeries, to include Craniotomy, Spinal Surgery, Aortic Rupture, Gunshot/Explosive wounds, Total Knee, Total Hip, ACL and many more procedures in a breadth of specialties.
- Neurosurgery, Orthopedics surgery and Vascular surgery Team Leader.
- Extensive experience and specialized domain knowledge of surgical operating room procedures, technologies, instrumentation, environment and culture.

EDUCATION

Doctor of Philosophy - Intelligent Systems and Robotics

University of West Florida - Institute for Human and Machine Cognition, Joint Ph.D. program

01/2021 - Present

Bachelor of Science in Computer Engineering

University of West Florida

01/2013 - 05/2018

Courses

- Digital Design
- Computer Architecture
- C Programming
- VLSI Design
- FPGA
- Systems & Networks
- Data Structures & Algorithms
- Digital Logic & Computer Sys.
- Microprocessor Applications
- Digital Image Processing

Bachelor of Science in Electrical Engineering

University of West Florida

01/2013 - 05/2018

Courses

- Electronic Circuits
- Power
- Autonomous Systems
- Signals & Systems
- Communication Systems
- Electromagnetic Fields
- Engineering Software Tools
- Linear Controls

Minor in Computer Science

University of West Florida

01/2013 - 05/2018

Associate's of Surgical Technology

Community College of the Air Force

01/2010 - 01/2012

Associate's of Engineering Management

Northwest Florida State College

01/2010 - 0/2012

CERTIFICATES

TensorFlow Developer Professional Specialization
(07/2021)

DeepLearning.AI, by Laurence Moroney of Google Brain

Neural Networks and Deep Learning Specialization
(07/2020 - Present)

DeepLearning.AI, by Andrew Ng of Stanford University

CERTIFICATES

Master AR/VR with Unreal Engine (08/2020)

Artificial Intelligence and Games, International Summer School 2021 (07/2021)

Continuous Delivery and Integration with GitLab (01/2021)

Jira Software Management (01/2021)

ORGANIZATIONS

AAAI

Association for the Advancement of Artificial Intelligence

IEEE

Institute of Electrical and Electronics Engineers

PROJECTS

AI Hardware - CPU, GPU, FPGA Matrix Multiplication Watt/FLOP Comparison (08/2018 - Present)

Pensacola Graffiti Bridge "Stop to keep your Top" sensing to inform driver their vehicle is too tall (01/2020 - Present)

Intelligent Computer Vision Tracking and Embedded Microcontroller in the Sporting Domain (08/2017 - Present)

32-Bit MIPS CPU Architecture in VHDL compiled on Intel-Altera Cyclone V FPGA (08/2017 - 12/2017)

Autonomous Systems Team, IEEE SoutheastCon Robotics Competition (01/2014 - 12/2014)

PUBLICATIONS

Authoring

Model-Free Reinforcement Learning for Static Point Source Localization in a 3D Simulation

Author(s)

T.L.J. Stewart, Kevin Francis and Connor Tate

05/2021

Development of effective source localization techniques utilizing Reinforcement Learning in a Q-learning algorithm reliably locates a source of pollution in deterministic and stochastic 3D modeled environments.

Conference Paper and Presentation

Intelligent Computer Vision Tracking and Embedded Microcontroller in the Sporting Domain

Author(s)

T.L.J. Stewart and Bassam Shaer

05/2018

International Conference on Image Processing, Computer Vision, & Pattern Recognition, IPCV'18

Novel athlete tracking and training system using OpenCV and an embedded microcontroller in real-time, improving training efficiency.

HONOR AWARDS

United States Air Force Service Medals

United States Air Force

- Meritorious Service Award
- National Defense Service Medal
- Nato Medal
- Afghanistan Campaign Medal
- Global War on Terrorism Service Medal
- Air Force Expeditionary Service Medal
- Air Force Overseas Medal

United States Air Force Service Medals

United States Air Force

- Air Force Honor Graduate
- 96th Medical Group Rising Star
- 96th Medical Group Below the Zone Early Promotion
- 96th Medical Group Airmen of the Quarter
- Air Force Good Conduct Medal
- Air Force Longevity Medal
- Air Force Achievement Medal

James S. Cogswell Award for outstanding Industrial Security Achievement.

Defense Counterintelligence and Security Agency

- The Cogswell Award is the most prestigious honor the Defense Counterintelligence and Security Agency (DCSA) can bestow, less than 1% are annually selected to receive this award.
- Awarded at the Signature Research Inc. organizational level.

VOLUNTEER EXPERIENCE

Youth Athletics Coach City of Fort Walton Beach

01/2016 - Present

Community

Fort Walton Beach, FL

Tasks/Achievements

- Youth Soccer Coach, U6 and U10 Teams
- Youth Basketball Coach, U6 and U10 Teams
- Youth Baseball Coach, U6 and U10 Teams

Fundraising Volunteer Emerald Coast Wildlife Refuge Inc.

09/2008 - 12/2012

Animal Welfare

Emerald Coast, FL

PERSONAL

Born April 1987, Detroit (MI) USA. Grew up in Kentucky from 1989-1997, moved back to Detroit with a thick southern accent from 1997-2007.

Languages: English, Latin

Children: Maverick Stewart, Anafai Stewart

INTERESTS

Snowboarding

Photography

Videography

Drones

Nutrition

Community Outreach

Philanthropy

Fitness

Creative Writing

Street Art

STEAM for Kids

Quantum Computing

Bionics

AI

AR/VR/XR

Robotics

Cybersecurity

Entrepreneurship