Andrew A. Fesenko

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EDUCATION

University of Florida Herbert Wertheim College of Engineering, Gainesville FL — Expected Graduation - May 2027
Bachelors of Science in Computer Engineering

EXPERIENCE

Game-based Learning and Digital Experiences (GLaDE) Lab, *Undergraduate Researcher* — Feb 2025 - Present
- Built interactive VR simulations in Unity to teach engineering statics, increasing engagement and learning outcomes through immersive problem-solving.
- Designed 3D statics problems using Blender and SolidWorks, enabling virtual manipulation of forces and constraints in real time.
- Used C# and Python to generate dynamic problem variations with randomized inputs to reinforce core concepts.
- Integrated real-time physics simulation and researched personalized learning strategies to improve educational effectiveness and system responsiveness.

Palm Beach State College, *Web Development Intern*, — Jun 2024 - Present
- Worked on the redesign of the college website and mobile app, helping improve navigation and user experience based on feedback from students and staff.
- Built custom APIs to sync data between JotForm submissions and internal databases, streamlining workflows and reducing manual entry.
- Helped transition paper-based processes to secure online systems, speeding up processing and reducing errors across departments.
- Contributed to both frontend and backend features using C#, JavaScript, and HTML/CSS to improve functionality and reliability.

Instatech Industries Inc, *Assistant,* — Oct 2021 – Aug 2023
- Maintained work areas to ensure safety compliance and efficient project execution.
- Created structural hardware blueprints in AutoCAD that aligned with engineering specifications and standards.
- Gained hands-on experience with hardware tools and fabrication processes, ensuring safety and efficiency in large-scale production environments.

Lindburgers, *Server, Food Runner, Busser,* — May 2021 – Aug 2023
- Delivered exceptional service in a fast-paced restaurant known for its 50 gourmet burger offerings, requiring extensive menu knowledge and effective upselling skills.
- Ensured accurate plating and quality control, collaborating with kitchen staff.
- Processed payments and managed customer needs, handling dietary preferences and custom orders.

PROJECTS

AI-Powered Interview Simulation Platform
- Built a job interview preparation platform using Next.js, Firebase, Tailwind, and Vapi AI with real-time voice-based interactions.
- Added feedback transcripts, Gemini-powered question generation, and a dashboard for tracking performance.
- Enabled real-time voice-based interviews with role-specific technical and behavioral questions

AI/NLP Series Analysis Project
- Built an AI/NLP system to analyze TV scripts, extract insights, and simulate character interactions.
- Developed a character network using Spacy's NER & NetworkX, visualizing relationships between characters.
- Implemented LLM-based classification, automating episode theme analysis with Hugging Face models.
- Created an interactive chatbot using Gradio & Transformers, enabling character-specific dialogues.

Arduino Self Balancing Cube
- Designed and built a self-balancing cube using ESP32, MPU6050 IMU, and Nidec 24H brushless motors.
- Implemented real-time PID control tuning, with Bluetooth-enabled calibration for dynamic balancing.
- Developed a real-time calibration system, allowing the cube to balance on an edge or vertex.

DormDeals
- Developed DormDeals, a campus-exclusive marketplace app with secure student transactions and in-app messaging.
- Designed a user-friendly UI, enabling quick item listings, wish lists, reviews, and boosted ads for better visibility.
- Awarded the $3,000 Startup Internship Award for innovation and impact on college campuses.

AI-Powered Basketball Game Analytics
- Built a computer vision system to analyze basketball games using YOLOv8, keypoint detection, and perspective transforms.
- Detected players and the ball in live footage, assigned team colors using zero-shot classification, and mapped positions to a top-down court view.
- Tracked ball possession, passes, and player movement automatically using deep learning, OpenCV, and NumPy.
- Used Hugging Face APIs to apply classification models and enhance tactical analysis from real-world video.

SKILLS

Languages: Python, TypeScript, JavaScript, C++, C, C#, HTML/CSS, SQL, MATLAB
Frameworks/Libraries: React, Next.js, React Native, Tailwind CSS, GSAP, react-three-fiber, Gradio, Hugging Face, Vapi AI
Tools & Platforms: Firebase, Git, Node.js, EmailJS, Unity, AutoCAD, Adobe Creative Cloud, RunPod, VS Code, JetBrains IDEs

ADDITIONAL

Technical Interests: Hardware Systems, Networking, IoT Applications, AI/ML/NLP, Cloud Computing, Embedded Systems, Real-Time Systems, Robotics, Computer Vision, Signal Processing, Automation, Systems Architecture
Language: English(Fluent), Russian (Limited Working Proficiency)
Relevant Coursework: Data Structures & Algorithms, Digital Logic and Computer Systems, Circuits 1, Microprocessors, Introduction to Signals & Systems, Computational Linear Algebra, Introduction to Software Engineering, Natural Language Processing, Applications of Discrete Structures, Introduction to Computer Organization