

Chris Haleas

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EDUCATION

Indiana University, Luddy School of Informatics, Computing, and Engineering

Bloomington, IN

Master of Science in Computer Science

Expected May 2026

Bachelor of Science in Computer Science

August 2022 – May 2025

Concentration: Artificial Intelligence | **Minor:** Data Science | **Certificate:** Entrepreneurship

GPA: 3.72/4.00 – *Cum Laude (Top 10% of Class)*

Honors and Awards: Hoosier Scholar Community, CSCI Student Scholarship, Dean's List

Relevant Coursework: Applied Algorithms, Data Analysis & Mining, Principles of Machine Learning, Artificial Intelligence, Product Management, Data Structures & Algorithms, Topics in AI: Trustworthy Machine Learning, Computer Vision, Statistical Inference, Linear Algebra

Student Leadership: Kappa Sigma Fraternity (Founding Member, Merchandise Chair), Sparklab Incubator (Co-Founder of StudyBuzz)

WORK EXPERIENCE

Humana | Louisville, KY

May 2025 – Present

AI Engineer Intern

- Engineered a digital care manager to conduct wellness calls for patients with chronic conditions, reducing hospital readmission rates by building a Node.js and Fastify backend with WebSocket for audio streaming, Twilio for call handling, OpenAI GPT-4o for conversation generation, Cartesia for text-to-speech, MongoDB for data storage, and a frontend designed with Gradio
- Generated 100+ synthetic patient records using OpenAI GPT-4o and stored them in MongoDB to simulate real healthcare data
- Personalized digital care manager follow-up calls by implementing the continuous storage of call transcripts and summaries
- Presented the digital care manager to C-level executives, securing approval to deploy the project for real patient calls
- Won 1st place in the Humana intern hackathon by building a full-stack tool to help Scrum Masters automate sprint progress tracking and assess team sentiment from Scrum stand-up recordings using OpenAI GPT-4o for call summarization, VADER for sentiment analysis, and an interactive Gradio frontend

Carnival Cruise Line | Miami, FL

May 2024 – May 2025

IT Sales and Guest Operations Intern

- Collaborated with the product management team on a booking system modernization project, impacting 30% of company revenue
- Drove the integration of an AI-driven cruise recommendation engine into the booking system, personalizing customer experience
- Designed recommendation engine architecture using Collaborative Filtering, Content-Based Filtering, and Adaptive Ranking model
- Led a vector search initiative with Microsoft consultants to create dynamic guest booking lookup in Carnival's internal systems
- Created Agile user stories for new features using Figma and Microsoft Azure, guiding the engineering team's development
- Contributed to Scrum ceremonies, including feature refinement sessions, sprint planning, and requirements gathering sessions

Lavner Education | Chicago, IL

June 2023 – August 2023

Information Technology Intern

- Managed software setup and technical troubleshooting for 30+ computers to ensure smooth operation for students and employees
- Coordinated and supervised the activities of 30+ campers in a tech summer camp, ensuring their safety and well-being
- Provided instruction and guidance to 10 students per day on various aspects of programming and game development fundamentals

PROJECTS & RESEARCH

Large Language Audio Model—Human Understanding Research for Indiana University Graduate Research | *Python, PyTorch*

- Researching how audio models interpret human relationships in dialogue under Professor Thai Le of Indiana University
- Designed a relationship taxonomy and applied it to a movie-audio dataset to evaluate models' understanding of human interactions
- Analyzed model performance and drew insights to inform the creation of a custom audio-based relationship understanding model

Scrollos: AI Research Discovery Platform | *Python, HTML, CSS, JavaScript, Flask, MongoDB, Firebase Auth, LangChain, GPT-4*

- Engineered a full-stack platform for discovering and sharing computer science research papers and materials using Flask and Python, with MongoDB for structured data storage and Firebase Authentication for user profile management
- Integrated OpenAI GPT-4 and LangChain to summarize arXiv research papers and generate engaging short-form content
- Built a web-app with JavaScript, HTML, and CSS, featuring infinite scroll and intuitive content discovery and upload functionality

Exploring Empathy of Leading LLMs for Trustworthy ML Course | *Python, PyTorch, Gradio, Matplotlib, LLMs*

- Evaluated empathy in AI therapeutic responses by comparing outputs from 4 large language models (LLaMA 3.2, OpenAI GPT-4o, Claude 3.7 Sonnet, Gemini 2.5 Pro) against human psychologist responses, using 35+ anonymous survey evaluations
- Developed an empathy classifier system using BERT-base-uncased with feature-based transfer learning, achieving 0.35 MSE
- Built an interactive Gradio UI to evaluate the empathy of text input and analyzed its robustness against 10 adversarial attacks

CNNs Against Adversarial Attacks in Face Recognition for Computer Vision Course | *Python, PyTorch, Matplotlib*

- Fine-tuned 6 Convolutional Neural Networks (EfficientNetB0, ResNet-18, DenseNet121, Inception v1, Regnet X 400MF, SqueezeNet 1.1) using PyTorch and transfer learning for binary classification of real vs. altered facial images
- Engineered black-box adversarial attack pipelines (Gaussian noise, RGB color shift, black patch occlusion) to assess robustness
- Evaluated model performance using F1-scores, confusion matrices, and radar charts; identified DenseNet121 as the most resilient

Content Safety Classification Model for Trustworthy Machine Learning Course | *Python, PyTorch, Streamlit, Matplotlib*

- Developed and trained a NLP model using RoBERTa architecture to classify text for content safety, achieving 84% accuracy
- Implemented a real-time Streamlit web application that integrates the trained model, allowing users to evaluate content safety
- Designed and conducted adversarial attack demonstrations to identify model vulnerabilities

NFL Trade Analysis for Data Analysis and Mining Course | *Python, pandas, scikit-learn, Seaborn, Matplotlib*

- Leveraged a Kaggle dataset to compute composite performance scores for NFL players by position using MinMax scaling of statistics
- Visualized team trends using Seaborn heatmaps and implemented a grading system to evaluate positional strengths across teams
- Trained a scikit-learn logistic regression model to predict future team improvement probability, achieving 65% accuracy

Fashion Forward for Artificial Intelligence Course | *Python, pandas, scikit-learn*

- Developed a Fashion Recommendation System, enabling users to receive clothing recommendations based on entered attributes
- Trained and compared K-Nearest Neighbors, Random Forest, and Decision Tree models on 45,000 clothing items with scikit-learn
- Evaluated recommendation accuracy by computing cosine similarity between user preferences and predicted item attributes

StudyBuzz MVP for HackTX | *Python, HTML, CSS, JavaScript, PyTorch, Node.js, React, Flask*

- Built an AI-powered web app at HackTX to generate concise lecture summaries; further developed through the Sparklab Incubator
- Trained a Longformer Encoder-Decoder model on a dataset of 6,500+ books to generate accurate summaries of lecture video files
- Connected a Python backend to React.js using Flask to create an intuitive user interface

SKILLS

Programming Languages: Python, Java, JavaScript, R, SQL, HTML, CSS

Machine Learning/AI Libraries: TensorFlow, PyTorch, scikit-learn, Hugging Face Transformers, OpenCV, NLTK, LangChain

Web Development: React.js, Node.js, Flask, Fastify, Gradio, Streamlit

Data Analysis & Visualization: pandas, NumPy, Matplotlib, Seaborn, Beautiful Soup

Databases: MongoDB, SQLite

Development Tools: Git, GitHub, Visual Studio Code, Jupyter, Microsoft Azure, Firebase, GitHub Copilot, Figma

Testing: pytest, JUnit

Additional Technical Skills: Machine Learning, Deep Learning, Natural Language Processing, Computer Vision, Full-Stack Development, Cloud Integration, Agile Software Development, API Development, Database Design, AI Model Fine-Tuning, Data Pipeline Engineering

Spoken Languages: English (Native), Greek (Fluent), Spanish (Conversational)