Aleksander Hovland

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Computer Science student at Georgia Tech, pursuing a minor in Robotics, and with strong software engineering internship experience. Proven ability to build production-grade pipelines in Node.js and TypeScript, develop AI-powered document intelligence tools using OpenAI and Azure, and create robust testing frameworks in Python. Strong foundation in algorithms, data structures, and cross-functional collaboration. Passionate about solving complex problems and delivering scalable, real-world solutions.

EDUCATION

Georgia Institute of Technology																																																Atlanta, GA
B.S. in Computer Science

Concentration: Intelligence and Modeling & Simulation																								**Expected Graduation: May 2026**

Relevant Courses: Data Structures and Algorithms, Objects and Design, Project Design, Intro to AI, Perception and Robotics, Computer Organization and Programming, Software Engineering, Design Algorithms, Machine Learning

EXPERIENCE

Oliasoft, *Node.js, JavaScript, TypeScript, Node.js*
Software Developer Intern																																												Jun 2025 – Jul 2025
- Developed a Node.js/TypeScript pipeline using Azure Document Intelligence and OpenAI to extract and convert tables into structured JSON.
- Handled OCR preprocessing, file type detection, and image corrections (rotation, blur, resolution) using tools like sharp and mammoth.
- Designed few-shot prompts and schema validations to improve AI accuracy and ensure clean, reliable outputs.
- Implemented modular services for processing uploads, cleaning noisy table data, and validating custom schemas.

Marine Technologies, *Python, unittest, TypeScript,*
Software Engineer Intern																																											May 2024 – Aug 2024
- Developed and implemented comprehensive unit tests for the I/O board used in marine applications, improving code reliability and reducing bugs.
- Utilized Python and 'unittest' frameworks to automate test cases, resulting in a reduction in manual testing.
- Identified and debugged issues in the I/O board's software, collaborating with the development team to resolve defects and enhance system performance.
- Documented test procedures and results, providing reports that facilitated better understanding and maintenance of the I/O board's software components.

Frontier International, *Python, numpy, pandas, matplotlib, React, Node.js*
Software Engineer Intern																																												Jun 2021 – Jul 2021
- Analyzed and visualized complex datasets with Python libraries (NumPy, pandas) and matplotlib, providing insights that informed key project decisions
- Developed interactive data dashboards with React and Node.js, allowing users to easily explore and interpret data trends and patterns in real-time.
- Collaborated with cross-functional teams to integrate data visualization tools into existing applications, enhancing user experience and data accessibility.

PROJECTS

Investigating Trends in Twitter Posts Over Time, *Python, BERT, RoBERTa, scikit-learn, HDBSCAN, BERTopic*												Aug 2025-Nov 2025
- Built a Joint Topic-Sentiment Modeling (JTS) pipeline using BERT and Sentiment140 to cluster tweets by topic and sentiment.
- Applied HDBSCAN and k-means to detect minority opinions and measure polarization across trending topics.
- Developed a Cross-Cluster Relationship Analysis method to map semantic links and identify "super-topics."
- Revealed sentiment shifts and contrarian clusters across 6 months of Twitter data using transformer-based embeddings.

Email Phishing Detection, *Python, Machine Learning libraries (scikit-learn, TF-IDF), Regex, Data visualization*												Jan 2025-May 2025
- Developed ML-based phishing email detection system with 96.97% accuracy using SVM, Random Forest, and Naive Bayes.
- Engineered feature extraction for URLs, HTML tags, and suspicious keywords using regular expressions
- Optimized SVM model implementation using sequential minimal optimization, improving convergence and reducing false negatives
- Trained and evaluated models using 14,920 training samples and 3,730 testing samples with 15,000-word vocabulary.

CoupCom Digital Coupon Wallet Platform, *Next.js, TypeScript, Firebase Auth, Flask, PostgreSQL, AWS EC2*												Jan 2025-May 2025
- Optimized SVM model implementation using sequential minimal optimization, improving convergence and reducing false negatives
- Implemented Firebase Google & email link authentication integrated with Flask backend using secure cookies and session handling.
- Built customer dashboard and wallet UI with real-time coupon fetching, status tracking, and responsive design using Next.js 15 and Tailwind CSS.
- Designed and deployed Flask API endpoints on AWS EC2 for wallet clipping, redemption, and transaction logging backed by PostgreSQL.

Spotify Wrapped Application, *Python, Machine Learning libraries (scikit-learn, TF-IDF), Regex, Data visualization*												Jan 2024-May 2024
- Developed a full-stack application using Spotify API to visualize users' listening data and generate personalized Wrapped summaries.
- Built friend comparison features, including Duo Wrapped and historical Wrapped views for tracking changes in music habits.
- Integrated Firebase for authentication, real-time synchronization, and user data management.
- Designed and implemented core user interfaces in Android Studio, focusing on performance and intuitive navigation.

ACTIVITY & INVOLVEMENT

GreyHat Club																																																				Aug 2024 - Present
- Designed posts and promotional content for events across all social media platforms, increasing attendance by 30%
- Utilized Canva, Figma, and Adobe Photoshop to create visually engaging designs.
- Collaborated with other clubs at Georgia Tech to co-host and design events, expanding outreach and engagement.

SKILLS & LANGUAGES

Skills: Python, Node.js, React, Tailwind, shadcn/UI, Java, HTML, CSS, JavaScript, TypeScript, Google Cloud Platform, Pytorch, Python NumPy, C, Assembly, Figma, Firebase, Node.js, Flask, React, Django
Languages: English, Norwegian, Swedish, Spanish