John "Jed" E. Geoghegan

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EDUCATION

Worcester Polytechnic Institute   Worcester, MA
B.S. Computer Science & B.S. Data Science (& M.S. Computer Science)   Expected Graduation: May 2026
- **GPA:** 3.93/4.0
- **Awards**: Dean's List (2022-present), Presidential Scholarship ($92,000), CS Honor Society Inductee (top 35%)
- **Relevant Coursework**: Algorithms, Machine Learning Development & Operations, Software Engineering, Operating Systems, Object-Oriented Programming, Linear Algebra, Discrete Mathematics, Systems Programming

TECHNICAL SKILLS

Programming Languages: Python, Typescript, Javascript, Java, HTML, Tailwind CSS, SQL, C, C++, R, SPL
Developer Tools: Linux, Docker, AWS, Git, Github, Splunk, Excel, Azure, Google Cloud Platform, Jira, Figma, VS Code
Libraries/Frameworks: React.js, Node.js, Next.js, Vercel, Flask, MongoDB, PostgreSQL, Pandas, Tensorflow, Pytorch

EXPERIENCE

Pfizer — *Cybersecurity Software Engineer Intern*   May 2024 - Aug 2024
- Build and designed **4**+ **Splunk** dashboards to monitor lookup replication performance, analyzing **2,000**+ **replicated** and **400**+ **non-replicated lookups**
- Optimized search efficiency by identifying **500+ active** and **2,000**+ **unused lookups** with targeted **SPL queries**
- Developed a custom regex-based filtering functionality to track **100+ temporary lookups** with contact type flags

PROJECTS

NakamaRecs | *Python, Tensorflow, Scikit-learn, Pandas, FastAPI, Streamlit*   Aug 2024 - Present
- Built an anime recommendation system using **TensorFlow Recommenders** for collaborative filtering and content-based filtering, increasing user engagement by **69%** and driving **2.5 million+ views** on Tik Tok
- Collected and processed **10,000+ records** from **MyAnimeList API** using **Pandas**, and streamlined data preprocessing with **Scikit-learn** by optimizing the dataset for model training
- Utilized **FastAPI** to build backend API endpoints and **Streamlit** to create a user-friendly frontend

Animal Fusion | *Python, PyTorch, Transformers, OpenCV, Stable Diffusion*   Oct 2024 - Present
- Created a text-to-image ML application enabling users to create unique animal fusions through AI-driven
- Implemented **Prompt Engineering** and **Retrieval-Augmented Generation (RAG)** techniques to fine-tune pre-trained **Stable Diffusion** models, enhancing output quality and reducing image generation time by **30%**
- Streamlined model training and generation pipelines using **PyTorch**, **Transformers**, and **OpenCV**

ML Lifecycle Case Study | *Python, Docker, Prometheus, AWS, Azure, Google Cloud, Gradio*   Sep 2023 - Dec 2024
- Refined song recommender chatbot using **Spotify's API** and **Gradio** for personalized song recommendations
- Launched the product using **Docker** on a shared VM, integrated **Prometheus** for performance monitoring, and automated deployment using **GitHub Actions** and **Bash scripts** to streamline **CI/CD** workflows
- Leveraged **Azure**, **AWS**, and **GCP** for hosting, optimizing infrastructure and reducing deployment times by **50%**

WPI Student Assistant Connect | *Python, AWS, SQLAlchemy, Flask, HTML/CSS, Javascript*   Nov 2024 - Dec 2024
- Led a team of **4 engineers** to build a full-stack web application for WPI student assistant recruitment
- Integrated **Azure Auth0** for role-based access control and developed user-friendly interfaces using **HTML**, **CSS**, and **JavaScript** with **7**+ features
- Deployed on **AWS EC2** with **Docker** containers and **AWS RDS** for **PostgreSQL** hosting, ensuring **99.9%** uptime

LEADERSHIP & ACTIVITIES

Upsilon Pi Epsilon: CS Honor Society inductee for academic excellence (Top 35%)
NSLS (Treasurer): Managed $3,500+ in funds and organized leadership development events for 300+ members
UPSL Soccer (Semi-pro): Starter for the Worcester Warriors semi-pro soccer team and played for WPI's club soccer team
SASE (Mentor): Mentored two students, improving their WPI experience through guidance on academic engagement