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Finn Kliwer

finnkliwer.com

GitHub: [OX-S](#)
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Employment

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|--|----------------------------|-------------------------------|
| Software Developer II (Full-Stack) | Paycom Payroll | May 2024 - Present |
| <ul style="list-style-type: none">Led data integration with international vendors by developing and maintaining REST APIs in C#. Successfully communicated with vendors in Germany to ensure compliance with local tax and payroll laws and reporting.Developed internal dashboards with ReactJS that followed company styling guidelines, integrating them with a PHP backend via API communication.Wrote backend code in PHP to support internal applications, collaborated with cross-functional teams, and used Docker to containerize and streamline the code's development, testing, and deployment. | | |
| Summer Analyst | Tiger Advisory | May 2024 - Aug 2024 |
| <ul style="list-style-type: none">Created Python automation that leveraged NLP and generative AI to extract and enter applicant information into the ClickUp database, saving over 30 minutes per applicantCreated internal wrapper REST API using Java to connect internal Retool apps with the ClickUp CRM | | |
| Research Assistant | RWJ Barnabas Health | Jan. 2024 - May 2024 |
| <ul style="list-style-type: none">Developed and trained a YOLOv8 object detection model using Python and PyTorch, involving custom dataset creation, data augmentation, and hyperparameter tuning to optimize performance metrics such as mean Average Precision (mAP) and Intersection over Union (IoU).Assisted in writing a paper (publication pending) with myself listed as one of the co-authorsSupervised high school students using the AI system, leading to a comprehensive study of their performance under its evaluation | | |
| Summer Analyst | SevenTrainVentures | May. 2023 - Sept. 2023 |
| <ul style="list-style-type: none">Developed websites for portfolio companies and new ventures, elevating their digital presence and user engagement.Designed and implemented a Salesforce automation using .NET, Apex, and custom workflows, automating data extraction and labeling tasks and saving 15 work hours per week.Developed Python scripts to automate preprocessing and labeling of Salesforce data for AI model training, using Pandas and NumPy to clean, transform, and generate structured labels for large datasets. | | |
| Intern | Adolf Tedsen GmbH | June 2022 - July 2022 |
| <ul style="list-style-type: none">Assisted with the embedded programming of ESP32 microcontrollers for RF control systems using CHelped design and test printed circuit boards (PCB) for radio control systemsContributed to the development of products that meet EU market requirements and made sure all RF transmitters followed the EU Radio Equipment Directive (RED) | | |

Projects

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| EarlyTrace.ai | https://github.com/OX-S/early-trace |
| <ul style="list-style-type: none">Built an AI tool that detects early signs of dementia by analyzing personal writings.Collected and processed 5000 blog posts, equal to about 1.4M tokens, using BGE-large-en-v1.5 to create 1024d sentence embeddings that capture subtle language patterns.Trained an XGBoost classifier with 5-fold cross-validation, achieving an F1 score of 0.95, and used LimeTextExplainer to identify keywords influencing predictions while filtering out topic-specific noiseEarned runner-up at the S25 Rutgers Hackathon | |
| GLSL Mandelbrot Fractal | https://github.com/OX-S/pyopengl-mandelbrot |
| <ul style="list-style-type: none">Built a real-time, interactive Mandelbrot set visualizer using GLSL shaders with PyOpenGL in PyGame, allowing smooth zooming and panning.Used FP64 (double precision) arithmetic for ultra-deep zooms, reducing numerical artifacts and maintaining fractal detail at extreme depths.Implemented a smooth iteration count formula and cosine-based color mapping to create seamless color transitions and visually striking fractal representations. | |
| ReactJS Pictionary | https://github.com/OX-S/react-pictionary-game |
| <ul style="list-style-type: none">Developed a real-time multiplayer Pictionary game using ReactJS, TailwindCSS, and Socket.IO, enabling synchronized canvas updates and seamless player interactions through a chat window. | |

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- Implemented customizable drawing tools, including color selection, brush size, eraser, and clear canvas using the react-sketch-canvas library
- Designed and integrated round-based timers and dynamic player roles, managed game logic and synchronization with Node.js and Socket.IO, and supported local network multiplayer sessions through IP-based accessibility and server-side event handling.
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Publications

- “AI Model Improvement of FLS PEG Transfer Competency After Video Annotation.”
- Hu A, Roshan U, **Kliwer, F**, Muralidhar R, Ady JW, Getrajdman J, Cai J, Maloney-Patel N, Bongu A. “AI Model Improvement of FLS PEG Transfer Competency After Video Annotation.” *American College of Surgeons: Surgeons and Engineers: A Dialogue on Surgical Simulation 2024, March 13, 2024. Abstract O-05.*

Education

Ithica, NY	Cornell SC Johnson	May. 2024 - Aug 2026 (expected)
<ul style="list-style-type: none">• Business Analytics - M.S.		
New Brunswick, NJ	Rutgers University	Sept. 2021 - May 2024
<ul style="list-style-type: none">• Computer Science - B.S., Minor in Mathematics		
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Skills

Python (11 years), Java (7 years), HTML/CSS (5 years), JavaScript (5 years), C/C++ (4 years), ReactJS (3 years), SwiftUI (3 years), Salesforce (3 years), Apex (3 Years), PHP (1 year), C# (1 year), Docker (1 Year),