

EDUCATION

- **The University of Pennsylvania, SEAS** Philadelphia, PA
B.S.E in Computer Science || Concentration: Artificial Intelligence Expected May 2027
 - **Coursework:** Data Structures & Algorithms, Big Data Analytics, AI, Discrete Math, Probability & Statistics
 - **Athletics and Leadership:** Varsity Lightweight Rowing, Penn Athletics Wharton Leadership Academy

RELEVANT EXPERIENCE

- **Bonk (Startup)** Philadelphia, PA
Co-Founder & CTO Nov 2025 - Present
 - Co-founded an AI-powered, non-invasive fitness wearable combining on-body sensors and cloud-based ML to estimate hydration, nutrition, lactate accumulation, and heat strain in real time.
 - Building end-to-end ML pipelines and a full-stack analytics platform for physiological time-series data including sensor data ingestion, real-time analytics dashboards, and performance forecasting
- **Fundstrat Global Advisors** New York, NY
Full Stack Developer & Data Science Intern Aug 2024; Jun - Aug 2025
 - Designed and optimized fully automated data pipelines and web scrapers using Python and SQL, processing 4M+ macroeconomic data points daily and eliminating 100% of manual data input while powering insights for 6,000+ clients.
 - Built a scalable analytics system with an AI-driven recommendation engine tailored to research interests and analyzed historical macroeconomic data for investment research, with my insights presented on CNBC.
 - Contributed to the full-stack development of Fundstrat's production charting platform, reporting directly to the Head of Data Science and Research.

PROJECTS

- **ImKomming** www.imkomming.com
 - Built a production-level web platform integrating the Wahoo API to analyze cycling performance data with OAuth authentication and serverless APIs.
 - Developed ML pipelines (LightGBM, XGBoost, K-Means) to estimate FTP and personalize training zones using power, heart rate, and fatigue features.
 - Implemented scalable, serverless FIT-file processing and real-time visualization using Next.js, TypeScript, and Python.
- **DraftEdge** <https://github.com/ethanxia23/DraftEdge>
 - Built an end-to-end NBA draft prediction pipeline integrating NCAA, NBA Combine, and NBA performance data; engineered conference-adjusted and temporal features to identify undervalued prospects.
 - Developed and evaluated multiple models including logistic regression, XGBoost (with hyperparameter tuning), and player similarity systems (UMAP + k-NN) to predict NBA performance, draft position, and career longevity.
 - Designed scalable data ingestion, cleaning, and feature engineering workflows in Python to process multi-source datasets and produce actionable insights beyond traditional scouting metrics.
- **ESP32 FPV Drone & Arrow**
 - Currently designing and building a custom FPV drone from sourced components and 3D-printed parts, programming an ESP32 microcontroller for onboard control, wireless communication, and real-time telemetry.
 - Implemented vision-based drone gesture control over Wi-Fi using OpenCV and MediaPipe, enabling low-latency, hands-free navigation through real-time pose and hand-tracking inference.
 - Developing Arrow, an anti-drone trajectory prediction system that discretizes 3D airspace into a matrix-based representation to model and predict flight paths of aerial objects—including drones and ballistic projectiles—using self-developed 3D-CNN and LSTM models.

PROGRAMMING SKILLS

- **Languages:** Python, SQL, Javascript, C++, HTML, CSS
- **ML & Data:** Pandas, NumPy, Matplotlib, PyTorch, Scikit-learn, Microsoft Excel