

# Jae Birdsall

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## EDUCATION

### The Pennsylvania State University

College of Engineering  
Bachelor of Science in Computer Science

University Park, PA  
May 2026  
GPA 3.45

## SKILLS

**Languages:** Python, Typescript, Javascript, SQL, Java, PHP, HTML/CSS

**Frameworks:** React.js, Next.js, Node.js, Express.js, Flask, Bootstrap, Tailwind CSS

**Libraries:** PyTorch, TensorFlow, Scikit-Learn, Pandas, NumPy, Plotly

**Developer Tools:** AWS, GCP, Git, Docker, MongoDB, MySQL, Linux, Jira, GitLab

## EXPERIENCE

### Human Technology Interaction Lab

Machine Learning Research Assistant

State College, PA  
May 2025 - Present

- Training and fine-tuning **ResNet models on 50,000+ traffic images** for real-time scene classification, **achieving 92% accuracy**
- Optimizing **TensorFlow data pipelines** with caching, prefetching, and mixed precision, cutting model training time by 40%
- **Deploying computer vision** models to edge devices with **TensorFlow Lite**, enabling real-time inference with **30ms latency**

### JiaYou Tennis

Software Engineer

Seattle, WA  
Apr 2025 - Present

- Developing immersive **augmented reality tennis trainer** for Snapchat Spectacles with **Typescript** and **Lens Studio SDK**
- **Managing Agile development team** of 4 engineers, organizing sprints and tasks to **deliver 94% of milestones** on schedule
- Implementing predictive trajectory modeling with **physics simulation and computer vision** enabling anticipatory swing guidance
- Training custom **YOLO computer vision model** for tennis racket detection across diverse environments to **91% accuracy**

### Albany Upstate Accounting & Tax

Web Development Intern

Albany, NY  
May 2024 - Aug 2024

- **Presented 5+ UI/UX prototypes** to clients in Figma, iterating on feedback to **reduce development time by 2+ sprints**
- Delivered full-stack website with HTML/CSS, JavaScript, Bootstrap and **Docker containerization** for scalable deployment
- Built 10+ dynamic PHP content modules in **Laravel/October CMS**, automated deployment with **GitLab CI/CD** pipelines

### Mindburn Solutions

Support Technician

Harrisburg, PA  
July 2021 - Aug 2023

- Designed visual report system for **MySQL database**, generating charts and graphs that helped inform team decisions
- Supported disaster recovery for multiple companies, **preserving 100,000+ customer records** after security breaches
- Configured **secure network environments** and server deployments for **5+ enterprise clients** including Amazon facilities

## PROJECTS

### Review Sentiment Analysis Model | Python, Flask, PyTorch, Scikit-Learn, NumPy, Pandas

[github.com/jaeminbird/RSAM](https://github.com/jaeminbird/RSAM)

- Created automated data pipeline processing **1,500+ professor reviews** with **Pandas** data processing and **BeautifulSoup**
- Fine-tuned **dual ML models** achieving **91% accuracy** using **PyTorch** and **DistilBERT** for comparative performance analysis
- Deployed interactive **Flask** dashboard with **Plotly** visualizations enabling real-time filtering and analysis on **70+ metrics**

### Timely (HackPSU Entry) | React, Next.js, OpenAI API, GCP, MongoDB

[github.com/jaeminbird/Timely](https://github.com/jaeminbird/Timely)

- Pitched and developed AI calendar assistant, leveraging **GPT-4o** and **Calendar APIs** to turn conversations into schedules
- Designed efficient **MongoDB database**, supporting **200+ chats** across **30+ concurrent users** with **150ms response times**
- Secured **user authentication** with **OAuth 2.0** and **Google Cloud Platform** to protect conversation and session privacy

## LEADERSHIP

### Korean Student Association

President

University Park, PA  
May 2024 - Present

- Lead diverse team of 12 board members, coordinating cultural events and educational programs for **300+ students**
- **Negotiate 10+ sponsor deals** for **500+ attendee cultural showcase**, securing **\$8,000+** through local business partnerships

### Asian Student Association

President

University Park, PA  
Apr 2023 - May 2025

- Developed multi-org partnerships with 5 student groups, generating **\$5,700+ through collaborative fundraising**
- Drove membership growth by 27% to **325+ active members** through targeted outreach and social media campaigns