

Steyn L. Knollema

Philadelphia, PA | steyn.knollema@gmail.com | +1 (215) 594 3192 | [Linkedin](#) | [Portfolio](#)

EDUCATION

University of Pennsylvania | Philadelphia, PA

Candidate – Master of Science in Engineering, Integrated Product Design, GPA: 3.93

08/2024 – 07/2026

Note: Specialization in Robotics & Machine Learning

University of Twente | Enschede, The Netherlands

Bachelor of Science, Industrial Design Engineering

09/2020 – 07/2023

Bachelor of Science, International Business Administration

09/2021 – 07/2024

Note: Among the top 1% of students to complete dual bachelor's degree simultaneously, officially equivalent to 80 study hours per week.

Seoul National University | Seoul, South Korea

Exchange semester taking advanced graduate courses, GPA: 4.0

08/2023 – 12/2023

SELECTED PROFESSIONAL EXPERIENCE

Serpent Robotics | Philadelphia, PA

02/2025 – Present

Co-Founder

- Owned the full product lifecycle for an industrial-grade robotic pruning system, coordinating a cross-functional team of 5+ engineers, designers, and operators delivering MVP that reduces user injury risk by 80% vs. manual pruning while reducing equipment & insurance costs by 55%.
- Conducted 65+ interviews & 10+ testing sessions with arborists and stakeholders to develop data insight from user stories and user behavior into shape clear specs, positioning, launches, pricing, and product requirements. Developed a marketing & ads strategy and iterated using insight analytics
- Aligned hardware engineering roadmap with business strategy while solely owning software engineering, securing \$70K+ funding by demonstrating 3-year path to \$12M ARR. Non-dilutive funding received from winning 8 different competitions.

ChatIT | Enschede, The Netherlands

02/2024 – 01/2025

Co-Founder

- Built AI B2B tools with hybrid pricing model (project-based + subscriptions), lead customer acquisition into 15 clients across 5 industries generating €15K revenue at 80% gross margins by using data driven insights for consumer targeting, marketing content creation, and product iteration.
- Headed business development and created low-cost workshop acquisition channel that educated prospects and converted 35% to customers through consultative sales at < €500 CAC. Improved offerings using input from data scientists.
- Conducted competitive analysis of 12 Artificial Intelligence vendors and prioritized product roadmap features that increased client operational efficiency by 40%

National Police Corps of the Netherlands | The Hague, The Netherlands

11/2022 – 02/2023

Lead Project Consultant

- Led team of 4 researchers consulting on design research for drone applications, analyzing operational requirements across surveillance, emergency response, and crowd management use cases by synthesizing and analyzing operations insights from all police deployments in 5 years
- Delivered 2 technical reports and 3 executive presentations to senior leadership, recommending policy guidelines that balanced operational capability with legal & privacy concerns.

SELECTED PROJECTS

SpatialPixel | Philadelphia, PA

Developing Spatial Computing software for enhancing Collaboration in Makerspaces

- Built AI-driven Augmented Reality collaboration prototypes, integrating image generation, speech recognition, and text generation.
- Delivered 3 system concepts, validated through iterative testing with 10+ users based on feedback and co-design session to optimize usability.

Advancing Machine Operating Instructions using Augmented Reality | Enschede, The Netherlands

- Led the development of an Augmented Reality system to automate safety instructions, improving user engagement by 47%.
- Thesis resulted in an academic publication, was rewarded with an A+ and received positive feedback from 3+ lead researchers in the field.

SELECTED LEADERSHIP & SERVICE EXPERIENCE

Penn Wharton Innovation Fund Team Member | Wharton Venture Lab, University of Pennsylvania

- Collaborated with 60+ student entrepreneurs, providing strategic advice to early-stage startups to help them generate growth.
- Directed the distribution of \$220K+ in pre-seed capital to promising student startups annually, enabling 20+ ventures to launch their products.

Engineering Masters Advisory Board | University of Pennsylvania

- Elected by my peers to advise the graduate board of the School of Engineering & Applied Sciences at the University of Pennsylvania on topics related to curriculum and culture improvements, representing 2500+ students.

TECHNICAL SKILLS

- Product Management:** Product Roadmaps, PRDs, Agile Sprints, MVP scoping/development, KPI Tracking, User Onboarding, Culture Management
- User Research & UX:** Interviews, JTBD, A/B split Testing, User Flows, Lo-Fi/Hi-Fi Prototyping, Feedback Loops
- Technical Fluency:** Python, C, C++, C#, APIs, Arduino/ESP32/ATmega, CAD, Design Sketching, Circuit Design, Ma
- Business & Strategy:** P&L Management, Unit Economics (CAC/LTV), Pricing Strategy, Market Sizing, GTM Strategy, Financial Modeling, Competitive Benchmarking