

Steyn L. Knollema

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Summary: Penn MSE candidate in Integrated Product Design (3.93 GPA) with 2.5 years of hands-on experience in the grocery industry at Albert Heijn, co-founder of two ventures, and a track record of shipping data-driven product decisions across hardware, AI, and operations.

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 specs, positioning, pricing, and product requirements. Developed a marketing & ads strategy and iterated using insight analytics
- Aligned hardware engineering roadmap with business strategy, securing \$270K 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), acquiring 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
- 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