

JUSTYNA SZYCHOWSKA

Software Engineer for AEC

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Full-stack engineer with 6+ years building production software for the AEC industry — from Rhino/Grasshopper plugins to cloud-executed computational pipelines and AI-agent integrations. Holds a Distinction-awarded MSc in Architectural Computation (UCL) with the Turner Prize for Best Dissertation. Active conference speaker, workshop tutor, and hackathon judge with award-winning work in global competitions.

EXPERIENCE

Senior Software Developer | Associate Principal

Kohn Pedersen Fox 02/2022 - 05/2026 New York

Software Developer (02/2022–08/2023, London) → Senior Software Developer (09/2023–06/2025, New York) → Associate Principal (06/2025–05/2026, New York)

- Lead end-to-end development of internal products used across architectural design workflows
- Architect and build systems combining Rhino/Grasshopper, web applications, and cloud infrastructure
- Develop platforms powered by Rhino.Compute, enabling parametric workflows outside of Grasshopper
- Build front-end applications (TypeScript/JavaScript, Three.js, Vue, Nuxt) that expose complex computational workflows through simple, non-technical interfaces for designers
- Operated across the full stack on a small team with no dedicated infra role — introducing CI/CD practices, building AWS automations, and developing internal APIs alongside application code
- AI integration work across internal tools — including an MCP-based connection between Rhino.Compute and an internal chatbot that lets designers run Grasshopper workflows via natural language, later taught as a public AECTech workshop

Teaching Faculty

IAAC 01/2023 – now Remote

- Lead instructor for "Digital Tools for Cloud-based Data Management" module, Master in Advanced Computation for Architecture and Design

Computational Design Specialist

Grimshaw Architects 09/2019 - 02/2022 London

- Supported design teams across live projects with parametric and computational modelling (Rhino3D, Grasshopper), translating design intent into automated, reusable workflows
- Improved and automated firm-wide workflows using Dynamo and Grasshopper, reducing manual modelling and coordination effort across project teams
- Developed custom tools for Revit, Rhino, Grasshopper, and Unity (C#) tailored to specific project and studio needs
- Built Unity applications (C#) for design visualization and interactive review
- Conducted machine-learning research (Python, TensorFlow) applying generative models to architectural design and analysis

Architectural Assistant (BIM Automation Specialist)

DMWR Architects 09/2017 – 04/2018 London

SKILLS

AEC / CAD Systems

Rhino.Compute RhinoCommon C#/.NET WPF

Computational Design

Parametric Modelling Grasshopper Dynamo

Web Dev

TypeScript/JavaScript Three.js Nuxt Node.js

Tailwind Vue 3

Cloud & DevOps

AWS Git GitHub Actions CI/CD

Other

Python Unity Product Management

Exploring

MCP LangChain Agentic Workflows

EDUCATION

M.Sc. in Architectural Computation

University College London London, the United Kingdom

09/2017 – 09/2019

Graduated with **Distinction +**
Turner Prize : Best Dissertation of the Year 2019

Dissertation title: "Adapting the Wave Function Collapse Procedural Content Generation algorithm to control the content distribution via Generative Adversarial Networks and probability alternation"

B.Sc. in Architecture and Urban Design

Warsaw University of Technology Warsaw, Poland

10/2013 - 02/2017

Architecture | Erasmus Exchange

Lusida University Lisbon, Portugal

09/2015 - 02/2016

COURSES

Agentic AI Bootcamp for Software Devs

Data Science Dojo 04/2026

6.431x: Probability — The Science of Uncertainty and Data

MITx MicroMasters 09/2021

- working on small to large scale project during all design phases in BIM software
- improvement and automation of workflows (Dynamo)
- BIM coordination, running clash detection, controlling the file's standards

Project Manager

Geek Girls Carrot  01/2017 - 07/2017  Warsaw

- project manager of Java course encouraging women to get into coding

Architectural Assistant

Z500  12/2016 - 07/2017  Warsaw

CONFERENCE WORKSHOP TUTOR

Grasshopper Inside AI: Running Grasshopper from AI Assistants with MCP + Rhino.Compute

AECTech NYC  2025  New York

- Co-taught with Aleksandra Sojka and Andy Payne.

Grasshopper on the Web: Web Apps with Rhino.Compute and Vue

AECTech NYC (2024), AECTech+ Barcelona (2024), ShapeToFabrication (2025)

Repeat workshop on cloud-executed Grasshopper via Rhino.Compute; co-taught with Sophie Moore and David Andres Leon.

Interoperability Workshops: Revit, Rhino, Unity

AECTech Summer (2021), AECTech Conference (2021)

Real-time collaborative VR review and Speckle-based interoperability; co-taught with Paris Nikitidis and Georgios Tsakiridis.

Computational Design Workshops

University of Westminster  12/2021  London

Grasshopper, solar radiation analysis, and Unity interoperability; co-taught with Paris Nikitidis and Georgios Tsakiridis.

COMPETITIONS

Best Collaboration Hack: Rhino.Anywhere

AEC TECH 2023 Hackathon

DevHops: Kanban Boards Integration with Grasshopper

AEC TECH 2022 Hackathon

Best Hack in Logistics, Training and Productivity: SpaceAR

MIT Reality Hack 2020

AR app for HoloLens 2 enabling intuitive architectural layout planning via gestures.

1st Place: Project Seurat

Autodesk DynamoBIM + Generative Design Hackathon, Toronto 08/2019

Dynamo add-in visualizing generative design results via unsupervised machine learning.

CONFERENCE SPEAKER

Design Technology Innovations at KPF

AECTech+ Barcelona 04/2024

Why We Love Rhino.Compute

Rhino/Grasshopper User Group 02/2024

Elevating Tool Development with Rhino.Compute

Shape To Fabrication London 04/2023

Generative ML Models in Architectural Design and Analysis

AI in AEC Conference 04/2021

 London

Autodesk Hackathon Winning Project

Dynamo User Group London 08/2019

 London