









Zvonko Vugreshek

Architect, MA & Computational Designer

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Experience

2019

Research Assistant

BTU Cottbus-Senftenberg

- Cyber-physical facade systems project - automation of digital fabrication processes for the AEC industry.
- Digital fabrication and robotic lab manager, student/teaching assistant.

2016 - present

Computational Designer / Tutor

DesignMorphine

- Machine learning for AEC webinar series "Rationalised Enclosures" & "Machine Streams" c.120 part. each.
- Form-finding and digital fabrication algorithm for a pavilion on FabFest 2017 in London, UK. Won 3rd place.
- Intensive course "Parametric Furniture design with Rhino & Grasshopper v1.0" in Skopje, Macedonia.
- Proposal exhibition stand for ETEM & Elval Colour for the BAU 2017 in Munich. Won second place.

2018-07

Junior Architect

ATP Frankfurt Planungs GmbH

ATP D&R Studio. Implementation of parametric & BIM strategies in general architectural tasks.

2017-09 - 2018-03

Intern Architect

3XN A/S, Copenhagen, Denmark

Providing computational design, automation and optimisation services. Making scripts and enhanced global office productivity by 50%.

2016-12

Assistant tutor

University ss. "Cyril & Methodius" Skopje, Faculty of Architecture

Parametric design & Digital Fabrication workshop "(Re)nest". 1:1 Tree nests with motion sensor lights.

2016-09

Computational design team member

University of Applied Arts, Vienna, Austria

Spatial installation "Robotic Contouring" in the university atrium. Work on the algorithm for struct. analysis.

Education

2012 - 2017

Ss. Cyril and Methodius University Skopje - Master of Architecture

Pioneer in introducing computational design and digital fabrication in depth to his colleagues and teachers.

Languages

- German - Very Good (B1.2)
- English - Fluent (C1)
- Macedonian & Ex-Yugoslav Languages - Native

Skills

- Architectural & Urban Design using CAD & BIM
- Computational / Parametric Design and optimisation
- Digital fabrication - 3D printing & Robotics



Software

- Rhino (+ Grasshopper)
- Revit & Autocad (+ Dynamo)
- Adobe Suite (Ps + Ai + ID)
- Scripting (Python, C#)



Mostly for Gh/Dynamo needs



Publications

- 2019 Vugreshek, Z., 2019. Introduction to ML for the AEC. In: AIAAF 19 symposium report. s.l.:BTU Cottbus - Senftenberg.
- 2018 Vugreshek, Z., 2018. The Use of Parametric and Computational Design in creating a sustainable city. Skopje: UKIM - Faculty of Architecture
- 2016 Vugreshek, Z., Petrovski, D., Ovezovski, B. & Bogeska, K., 2016. Kumanovo, city of culture and sustainability. In: Visions for Kumanovo. Skopje: UKIM Skopje, Faculty of Architecture.



Workshops/Projects/Lectures

- 2015-07 Parametric & Generative Workshop - Generative Morphologies v.2 - Sofia, BG
- 2016-02 Computation & Digital Fabrication Workshop - Computation Matters v.1 - Sofia, BG
- 2016-07 Computation & Digital Fabrication Workshop - Intelligent Tectonics v.1 - Sofia, BG
- 2016-09 Die Angewandte Architecture Challenge - Robotic Contouring - Vienna, AT
- 2017-02 Parametric Detailing Workshop - Correlated intricacies v.1 - Sofia, BG
- 2017-07 Parametric BIM Workshop - Informative Archetypes v.1 - Sofia, BG
- 2018-02 Human in the Time of Digital - Lecture with Lidia Ratoi (HKU, HK) - Copenhagen, DK
- 2018-04 Through computational design to intelligent solutions - Lecture at UKIM Skopje - Faculty of Arch.
- 2019-03 Machine Learning / Optimisation with grasshopper Webinar - Rationalised Enclosures
- 2019-10 AIAAF '19 conference workshop "Intro to ML for the AEC" , Cottbus, DE
- 2020-07 Machine Learning / Optimisation for the AEC webinar series "Machine Streams"
- 2020-09 eCAADe '20 Conference Workshop "ML for Urbanity" , Berlin, DE



Computational skills

- Grasshopper 3D:
 - Looping and swarming
 - Simulation and analysis (physical, behavioural)
 - Optimisation (Single/Multi Objective, Structural)
 - Machine learning techniques (Clustering, Neural nets)
 - Environmental design/analysis (Ladybug/honeybee, gismo, CFD)
 - Computational urban planing
- Dynamo:
 - Revit automation and Rhino/Revit interoperability