

# Natasha Bajc

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## Summary

Award winning designer with broad expertise in visual design: 2d, 3d and generative design, with accent on spatial skills, as well as prototyping skills in: 2D (Balsamiq, adobe packet), 2½ D (VR, AR and mixed reality) and 3D (3D printing, CNC, robotic fabrication) including sensor and actuators – Arduino, Raspberry Pi. Trained storyteller skilled in structuring complex taxonomies into a comprehensive and accessible narrative and intuitively driven information architectures. Expert researcher, with scientific background in emotion research, using latest affective technology tools to understand users. Proficient in NUI (Natural User Interfaces) comprising of multimodal approach beyond 2d interaction. Skills include: sentiment analysis, NLP (natural language processing), gestures, gaze, facial expressions, galvanic skin response, heart rate variability interpretations and use in interaction tools. Trained in human subject experiments techniques including bias detection and avoidance, in both qualitative and quantitative statistical result interpretation. Experienced in a/b and multivariate testing and statistical analysis, t-tests, ANOVA, data handling and normalization, bringing of the moment machine learning skills for predictive analytics.

## Education

MASTER OF COMPUTER SCIENCE (with accent on affective computing) | Spring 2019|

UNIVERSITY OF SOUTHERN CALIFORNIA (USC)

- Related coursework: Affective computing (with J Gratch)
  - Multimodal machine learning for human computer interaction
  - Machine learning for data science
  - Artificial Intelligence
  - Robotics (with S Schaal)

MASTER OF ARCHITECTURE | FALL1999 | SOUTHERN CALIFORNIA INSTITUTE OF

ARCHITECTURE

(SCI-Arc)

- Related coursework: Generative design
  - Thesis advisor Karl Chu

BACHELOR OF ENGINEERING IN ARCHITECTURE AND URBAN PLANNING | SPRING 1995 |

UNIVERSITY OF BELGRADE, SCHOOL OF ARCHITECTURE

- 5-year long program building science + architecture, currently recognized as Master of building science

EXECUTIVE EDUCATION | SPRING 2012 | HARVARD BUSINESS SCHOOL/ GRADUATE SCHOOL OF DESIGN

- Foundations of Real-estate

## Skills & Abilities

### MANAGEMENT

- Managed highly skilled multinational teams of 50+ diverse domain knowledge professional designers and technologists on multi hundred million dollar real-estate projects.
- Pioneered use of agile/scrum and lean project management techniques in non-technology fields.
- Developed lean design system with VR prototyping simulations and testing from early design stages.

## DESIGN

- Owning a project vision, execution, quality and client relationship
- Constructing innovative technological solutions, visually stunning with intuitively understandable interaction and reliable execution, based on the client brief and user interviews
- Holistic and human centered approach to product and service design, from research and insight generation to concept, testing and deliverable
- World building skills that establish a path to previously unseen future solutions

## SPEAKING

- MIPIM, Real-Estate conference, Cannes France 2012,
- REBEC 2013 Belgrade, Serbia (keynote)
- Real Vienna 2011
- PKF Vienna annual summits 2010-2012
- TEDx Belgrade 2010

## MOVIE PRODUCTION DESIGN

- Dark world 2007 ([https://www.amazon.com/Dark-World-Michael-Pare/dp/B001MX9O4M/ref=sr\\_1\\_2?ie=UTF8&qid=1527721170&sr=8-2&keywords=dark+world+movie](https://www.amazon.com/Dark-World-Michael-Pare/dp/B001MX9O4M/ref=sr_1_2?ie=UTF8&qid=1527721170&sr=8-2&keywords=dark+world+movie)),
- Baby doll forever 2004
- Music videos for MTV 2004-2005

## TOOLS

### VR/AR environment tools:

- Unity and Unreal Engine development: scripting(c#), designing: interaction, assets, environment and designing collecting and analyzing user data.
- AR and VR prototyping for HTC Vive, Oculus, Daydream VR, Microsoft VR, Hololens

### UX/UI tools:

- Information architecture, wireframing, storyboarding, user flow, process flow
- Full body interaction (multimodal or NUI) in environment, and multi-platform interaction
- Balsamiq Mockups, Adobe XD, Sketch, Aframe, Framer, Twine, scripting in HTML5, CSS, Javascript

### User research tools:

Trained in human subject experiments techniques including bias detection, in both qualitative and quantitative statistical result interpretation. Experienced in a/b and multivariant testing and statistical analysis, t-tests, ANOVA, logistic regression, data handling and normalization, bringing of the moment machine learning skills for predictive analytics.

### Psychological-Affective tools:

- Sentiment analysis, NLP (natural language processing), gestures, gaze, facial expressions, galvanic skin response, hart rate variability interpretations and *use in interaction tools*.
- Open face, Affectiva, Covarep, LIWC

### Visual design tools:

- ACAD, Revit, 3dsMax, Maya, Rhino, Grasshopper, Blender, Sketchup, Adobe packet
- Modeling, rendering, animation, character animation and rigging

### Technological development Tools:

- Machine learning: Scikit learn, TensorFlow, Matlab
- C, C++, C#, Java, Python, Matlab and Simulink

## Awards and Exhibitions

### Awards(selected):

- Radical innovation in hospitality award 2014
- European hotel design award 2013 “Tomorrow’s hotel”

### Exhibitions(selected):

- Venice Architectural Biennale, Hong Kong pavilion 2018
- Skyline by Lerata, International Interactive art festival, Downtown Los Angeles February 2016
- Architecture + Design Museum Los Angeles June 2014 SMLXLa Come In
- Skyline by Lerata, International Interactive art festival Downtown Los Angeles February 2014

## Experience

### Director PRINCIPAL | CODEDESIGN STUDIO | FROM 2013

- Worked closely with clients and stakeholders, as well as internal team to develop award winning immersive experiences, merging innovative design process, experimental technology development and fabrication, information and visualization techniques with client’s brand philosophy and need, supported by market research, and best business practices
- Pioneered organization of design and research practice that is blurring the lines between physical, augmented/virtual and informatic space
- Established future vision and strategy, managed day to day, tracked deliverables, developed talent · Example: Fluid dynamic inspired, immersive physical navigation, retail wine cellar @ Radisson Blue

<https://www.youtube.com/watch?v=O4GO4IV3rUw>

### DESIGN DIRECTOR | URBIS DESIGN | FROM 2009 TO 2012

- Managed supervised and led award winning innovative architecture and interior design office of over 60 employees and 30+ specialized consultants on the premier projects in south east Europe. Pioneered user centered design and user experience techniques in immersive architectural environments, designing user interaction in multiple settings, as well as allowing and inviting adaptability and customization by user.
- Major projects:

Porto Montenegro development, interiors; <http://www.portomontenegro.com>;

Interiors for 4 buildings with about 40 unique high end apartments; Crowne Plaza Belgrade, architecture and interiors

415 key heritage protected building remodel and rebranding;

Montenegro Expo and Convention center Budva, Montenegro, planning, architecture and interiors; 400.000 sq.ft. new mixed used space;

### CEO PRINCIPAL | URBIS INC | FROM 1999 TO 2009

- Managed and led 3 global offices of over 60 employees on 2 continents, producing design development for ultra-high-end interior design hospitality projects. Innovated in office collaboration techniques with remote offices. Structured lean approach to team /project management. Over 150 world class projects. Frequently parallelly managing 15+ world class projects.
- Major projects:

Venetian Las Vegas; (all 3 towers); Disneyland Tokyo flagship hotel; Aulani Disney resort Oahu, Hawaii; Montage Beverly hills; Regent Beverly Wilshire Beverly Hills; St Regis Dear Valley, Park City, Utah; Lila palace Bangalore, India; Crowne Plaza Da-Nang, Vietnam.

## ACADEMIC APPOINTMENTS

Faculty | lecturer | visiting professor

Teaching architectural studio, interior studio, visual studio

- Pasadena City College from 2015
- UCLA Suprastudio 2015-2016
- Woodbury university 2013-1015
- University of Belgrade 2009 – 2010
- Cal Poly Pomona 2001
- Sci-Arc 1999-2001

## TECHNOLOGY CONSULTING

- Morphosis Architecture - machine learning for urban planning
- Frederick Fisher Architecture – interactive design installations
- RTKL - interactive design installations