Branimir Stankovic

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TEACHING BACKGROUND

Assistant College Lecturer, *August 2025 – present*
Engineering Technology Department
Cleveland State University

Visiting Assistant Professor of Practice, *August 2021 – August 2025*
Engineering Technology Department
Cleveland State University

- Courses taught:
    - EET 201 - Fundamentals of Electronics
    - EET 202 - Fundamentals of Digital System
    - EET 205 - DC Circuits
    - EET 207 - AC Circuits
    - EET 410 - Power Electronic Systems
    - EET 411 - Power Electronic Systems Laboratory
    - GET 255 - Introduction to Robotics and Automated Systems
    - ESC 120 - Introduction to Engineering Design

- Courses developed and taught:
    - EET 494 - Advanced Topics in Electronics - Fundamentals of Surface Mount Technology
    - EET 494 - Advanced Topics in Electronics - Fundamentals of Measurement and Instrumentation
    - EET 494 - Advanced Topics in Electronics - Sensors and Instruments for Measuring Common Physical Quantities

TECHNICAL BACKGROUND

Program Manager, *July 2003 – August 2021*
Valtronic, Solon OH

- Managed various project for major medical OEMs. The projects include implantable hearing aid device (cochlear implant), several implantable sleep apnea devices, pulmonary artery pressure measurement system, monitoring device for measuring continuous beat-by-beat blood pressure ("CNIBP"), implantable bladder pacing system for treating urinary incontinence, devices to treat obesity and gastrointestinal disorders, continuous subcutaneous insulin infusion device, implantable spinal cord stimulation system, infusion pump, ultrasonic teeth cleaner, and phototherapy device for oral use.
- PCB technologies employed: rigid, rigid flex, and flex
- Assembly technologies employed: SMT (down to 008004 size), wire bonding (Chip on Board), flip chip (FC), BGA, Chip on chip (CoC), Chip Scale Package (CSP), Multi-Component Modules (MCM), and Through-Hole Technology (THT).
- Familiar with ISO 13485 standard
- Worked with Class I to III assembly projects, including active implants
- Worked on assembly processes performed in ISO Class 7 Cleanroom
- Worked on a number of projects for Cleveland Clinic, Case Western Reserve University, and Boston University

Independent Contractor, *December 2002 – July 2003*

- Developed tire pressure monitoring system for direct tire pressure monitoring application based on Motorola MPXY8020 chip.
- Developed high voltage AC generator for MEMS applications

Applications Engineer, *1999 – December 2002*
Transat Corporation, Solon, OH

- Developed a PCI frequency measurement card (range: 1MHz to 1GHz), based on PLX 9052 and Xilinx 95216 chips. Emphasis on turnaround time, cost, and compatibility with existing software. Managed driver development. Used Xilinx ISE5 package including ModelSim for CPLD design and simulation, and OrCAD 9.2 EDA package for schematic capture, mixed-signal simulation, and PCB layout design.
- Designed a probe for in-process quartz crystal resonance measurement, compatible with the existing proprietary lapping controller. Used PADS PowerPCB 5.0 EDA package for PCB layout design. Emphasis on extended frequency range, cost, and compatibility with existing hardware.
- Modified a program for final plating of crystals and crystal oscillators using Borland C language. Emphasis on improved plating accuracy, repeatability and speed, as well as compatibility with the existing Transat plating controllers.
- Developed software for silicon wafer lapping control using Microsoft Visual Basic. The software controls silicon wafer lapping by using Transat 2000 series lapping controllers.

Applications Engineering Manager, *1995 - 1999*
Silicon Sensors LLC, Dodgeville, WI

- Managed Applications Engineering group. The group consisted of 3 engineers with a task to help customers apply SSL devices, as well as to devise and develop new applications.
- Worked on manufacturing processes both inside the cleanroom and outside of the cleanroom.
- Developed automated tests procedures for testing silicon wafers.
- Designed PCI data acquisition boards based on PLX9050 and ALTERA MAX7000 series devices. Used Altera Max+Plus II package for CPLD design and OrCad EDA package for schematic capture and PCB layout design.
- Designed circuits for applications of Position Sensitive Photodiodes. These devices are used primarily for very precise one and two-dimensional position displacement detection. The communication functions are based on the IEEE P1451.1, USB 1.1 and Ethernet TCP/IP.

Teaching and Research Assistant, *1991-1995*
University of Wisconsin - Madison

- Teaching and Research Assistant
  - Courses taught: Robot Motion Planning, Microprocessor Programming, and Optical Sensor Design
    - 9/2/1992 - 12/15/1992 Optical Sensor Design
    - 1/19/1993 - 5/7/1993 Microprocessor Programming
    - 9/2/1993 - 12/15/1993 Optical Sensor Design
    - 1/24/1994 - 5/13/1994 Robot Motion Planning
    - 9/1/1994 - 12/15/1994 Microprocessor Programming
- Robotics Research. Developed the part of the real time motion planning algorithm to control sensitive robotic arm manipulator. Project included development of the highly sensitive IR array consisting of IR LED – photodiode pairs. Computing hardware was based on the Texas Instruments DSP TMS320C31, Motorola MC68HC11 and INMOS T800 and T400 transputers. The software was written in Parallel C programming language and TMS320C30 assembler. Firmware was developed for Motorola MC68HC11 microcontroller.
- Developed various interface circuits for communication between DSP based computer board, transputer system, Hitachi robotic controller and optical encoder circuits.

Teaching and Research Assistant, *1988-1991*
 University of Belgrade, Yugoslavia,

- Teaching Assistant
  - Courses taught: Microprocessor Programming, Power Electronics, and Sensor Design
    - 2/15/1988- 5/31/1988 Microprocessor Programming
    - 10/3/1988- 1/13/1989 Power Electronics
    - 2/15/1989- 5/31/1989 Microprocessor Programming
    - 10/2/1989- 1/15/1990 Power Electronics
    - 2/15/1990- 5/31/1990 Sensor Design
    - 10/1/1990- 1/15/1991 Sensor Design
- Developed the central unit for telecommunication switching system based on the microprocessor Motorola MC68000 and microcontroller Intel 8031. Studied and applied digital control of the communication switching system. Schematic capture and printed circuit board design was done using OrCAD EDA package.

Design Engineer, *1983-1988*
Instrumentation Laboratory, Belgrade, Yugoslavia,

- Used advanced knowledge and experience in the fields of precise measurements and of analog and digital electronics: designing, testing and calibration of various equipment.
- Manually and automatically calibrating systems. Automatic calibration systems: HP-320 (HP BASIC language) and IBM PC.

ACADEMIC BACKGROUND

M.S., Electrical Engineering, 1998
Major: Computer Engineering, GPA 3.95/4
University of Wisconsin – Madison

M.S. Electrical Engineering, 1991
University of Belgrade, Yugoslavia

B.S. Electrical Engineering, 1982
University of Belgrade, Yugoslavia

SKILLS:

Program Management, Engineering management
OS: Windows, LINUX
CAD Software: OrCAD Capture, Layout, Cadence Allegro, Mentor Graphics, Altium, Innoveda ePD, P-CAD, Protel, PadsPCB, Multisim/Ultiboard, Xilinx ISE, Altera MAX+Plus II, CadStar, AutoCAD

Simulation: SABER Designer, OrCAD PSPICE, ModelSim, MATLAB, MathCAD
Office Software: Excel, Word, Access, Power Point, Project, Scientific Word
Programming: Visual Basic, C/C++, LabView, Assembly (Intel/Motorola), HTML, TCP/IP

PUBLICATIONS: D. Um, **B. Stankovic,** K. Giles, T. Hammond, and V. Lumelsky. A Modularized Sensitive Skin for Motion Planning in Uncertain Environments. In *IEEE Int. Conf. On Robotics and Automation*, pages 7 - 12, Leuven, May 1998.