Vita	**Igor Aleksandar Kostic**

EDUCATION

M.S. in Electrical Engineering, August 1999, Virginia Tech.
Thesis: "Fiber-Based ATM Computer Network Performance and Survivability Issues under Soft Failure Conditions."
B.S. in Electrical Engineering, Michigan Technological University.
Concentration: Communications / Electromagnetics, **Summa Cum Laude**, May 1997.
A.S. in Engineering, Bay De Noc Community College, Michigan, May 1995.

EXPERIENCE

Research Associate, Virginia Tech, January 1999-Present.
Research Engineer for Fiber & Electro-Optics Research Center (FEORC).

Job Responsibilities
- Research, analyze and present results of work on optical fiber communication systems, subsystems, and computer networks.

Projects Executed
- Completed ATM-based fiber optic network for Virginia's Smart Road, a $25+ million project:
  - Acted as liaison between the customer (primarily government agencies) and the vendors (cable, switches, etcetera).
  - Obtained equipment donations for project.
- Evaluated distance measurement system based on the wavelength shift of LD light.
- Implemented EFPI magnetic field sensors and wavelets-based signal processing for vehicle detection and classification.
- Wrote research proposals, reports, and papers.
- Gave presentations to sponsors, technical meetings, academia and industry.

Research Assistant, Virginia Tech, January 1998-December 1998.
Project Engineer for FEORC.

Job Responsibilities
- Analysis and laboratory research work of optical fiber communication systems, networks and optical fiber sensor systems.

Projects Executed
- Provided complete design specifications for the fully integrated ATM-based fiber optic network for Virginia's Smart Road.
- Delivered cable recommendations for the Smart Road.
- Investigated wavelength division multiplexing in multiwavelength networks.
- Analyzed performance of subband coding (wavelets) vs. block coding (JPEG).
- Compared fiber optic vs. coaxial cable transmission of microwave signals.

Graduate Teaching Assistant, Virginia Tech; September 1997-December 1997.
- Organized, graded, and prepared a senior level course in analog and digital communication systems.

Graduate Research Assistant, Virginia Tech, FEORC, June 1997-August 1997
- Studied analog video transmission (NTSC) -- SCM AM-VSB and digital video transmission (MPEG) -- SONET.

Other Academic Activities, Undergraduate, 1993-1997
- Interdisciplinary research.
- EE Coach.
- Math Coach.

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**TECHNICAL
SKILLS**

Configured ATM switches and Network Interface Cards (NIC).
Configured MJPEG codecs and routed video across private ATM networks.
Documented fiber cable layout in OrCAD.
Analyzed/tested computer network performance using Ganymede's Chariot software.
Worked with ATM Adaptation Layer multiplexers.
Performed measurements of ferrite-polymer materials as a function of frequency.
Familiarity with ATM, SONET, LANE, Ethernet, TCP/IP, UDP, FDDI.
Capabilities with Chariot, Matlab Wavelet Toolbox, OrCAD, MathCad, SPICE, Fortran.
Abilities in Windows 95/98, Mac OS, Linux, UNIX, SunOS, X11.

PRESENTATIONS

"***Computer Network Performance and Survivability Issues Under failure Conditions***," FEORC's 12th Annual Research Program Review, Blacksburg, VA, 27 April 1999.

"***Optical Fiber Magnetic Field Sensor and Signal Processing for Vehicle Detection and Classification***," SPIE Conference on Intelligent Systems and Advanced Manufacturing, Boston, MA, 1-5 Nov. 1998.

"***Use of Fiber Optics in Intelligent Transportation Systems***," North American Travel Monitoring Exhibition and Conference, Charlotte, NC, 11-15 May 1998.

"***Use of a Fiber Optic ATM Architecture for ITS Roadside Communications***," FHWA RCE Advisory Board Meeting, Falls Church, VA, 22-23 April 1998.

"***Fiber Optic Communication Network for the Smart Road Project and Implementation of ATM to ITS***," FEORC's 11th Annual Research Program Review, Blacksburg, VA, 16 April 1998.

HONORS

Intellectual Property Disclosure Co-Inventor, "EMI Resistant Optical Fiber Highway Barrier Breakage Sensor."
Manuscript Reviewer for Optical Society of America.
Proposal Reviewer for Virginia Center for Innovative Technology.
HKN (Eta Kappa Nu International Electrical Engineering Honor Society) Member, held office 1996/97.
TBP (Tau Beta Pi National Engineering Honor Society) Member.
LeaderShape Institute Graduate.
International Student Scholarship Recipient; MTU.
International Student Scholarship Recipient; Bay De Noc.
Dean's List Summer 1993-Spring 1997.

LANGUAGES

Fluent in conversational and written Serbo-Croatian and Macedonian.

ACTIVITIES

Downhill skiing, weight training.