# Edwin A. Hernandez-Mondragon, PhD

**Technologist, Expert Witness & Entrepreneur**

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## Expertise Areas

- **Cable TV Systems and Broadcasting:** Cable TV Multicasting, DVB-C/T/S, "Cloud to Cable TV," Set Top Boxes, MPEG Encoding, Streaming, Multiplexing, HFC, Docsis Standards.
- **Multimedia Streaming**: OTT Platforms, TV distribution, Music & Video Platforms and automated playlist creation, real-time encoding, CDN, and cloud storage systems
- **Mobile Devices and Systems**: User Interfaces in mobile, mobile operating systems, Expert in mobility and wireless roaming 2G-3G-4G-5G systems
- **AirInterface and LTE Source:** Experience with SDRs, OpenAirInterface project, reviewing code for handover, RRC Channels, KPI, and X2/S1AP/XN handoff parameters
- **Cloud Storage and Data Synchronization:** GlusterFS, File Systems, Dropbox/S3 integration. Cloud computing, Load balancing, AWS.
- **Wireless Communications**: 5G, 4G, 3G, LTE signaling, WLAN, Software-defined Networks, and RF emulation with a patent in wireless emulation/dissertation on this field.
- **Blockchain**: Bitcoin, Litecoin, Consensus Algorithms, Gossip Protocols
- **Power Management:** Wireless Power Management Issued Patent for Microsoft Wireless Service and Wireless Charging Patent with over 80+ references
- **Personal Area Networking:** Expertise in Personal Area Networks and Wearable Systems. Issued Patent for Windows PAN Driver.
- **Smart phones and wireless embedded software development**: Personal Area Networking, Virtual Machines and Operating Systems, Bluetooth

## Academic Background

Ph.D., **University of Florida**, Gainesville, FL
Major: Computer Engineering,
*Research Areas:* Mobile Computing, Wireless Networks, Handoff Optimization, and Adaptable Network Protocols, Linear Prediction, Network Emulation
*Dissertation:* An Adaptive Networking Protocol for Rapid Mobility Environments
Advisor: Dr. Sumi Helal, August 2002

M.Sc., **University of Florida**, Gainesville, FL
Major: Electrical and Computer Engineering
*Research Areas*: Computer Networks and Intelligent and Information Systems (Artificial Intelligence).
Thesis: Adaptive Sampling for Network Management
Advisor: Dr. Alan D. George  December 1999

B.Sc. **Costa Rica Institute of Technology**, Costa Rica
Major: Electronics Engineering
Thesis: Monitoring system for a packet-based data network, RACSAPAQ
Advisor: Dipl-Ing. Luis P. Mendez  July 1995

## Industry Experience

**EGLA COMMUNICATIONS / SOFTWARE Development / MEVIA – Owner – ( 10/10 – Present)**
**Experience:**  Created MEVIA Apps & Cloud to Cable TV.  **CloudtoCable** is a patented platform that merges cloud and Cable TV systems and simplifies music and video distribution to web, mobile and Cable TV.  Cloud to Cable is servicing operators like CABLE COLOR in Honduras. MEVIA[1] is a "Software as a Service" and a cloud-based platform that enables "*MEVIA Music*" currently in operation in several countries including Brazil, Honduras, and United States. Supplied and maintained REST/SOAP/JSON APIs to handle more than 500K subscribers with SKY TUNES application. Our technologies powered DMX Media before its **$16M** acquisition by Stingray Digital mediamplify.com, mevia.co and www.eglacomm.net

**EGLAVATOR, Boca Raton, FL. (*3*/17 – Present)**
**Experience:**  Founder of technology incubator and accelerator with 8 startups in Cloud, 4G, Prototyping and development of mechanical, electrical, and software products.   www.eglavator.com Consulting for DEMOLIZER, HydraFlush, and others.

**MEVIA STUDIOS – Co-host –Boca Raton, FL (3/18 to Present)**.
**Experience:**  As part of EGLAVATOR's TV, Media studio. I host and produce TV shows in technology and business: ASK ALICE, TECH ED TV, and others with over 15 shows/podcasts.

**EGLA COMMUNICATIONS / Expert Witness Services,  Boca Raton, FL (3/16 to Present**)
**Experience:**  Expert witness services for patent and trade secret cases in Federal court, filing expert reports, consultant, software auditing. https://eglacomm.net/expert-witness-services/

**MOBILITY WORKX, LLC.  Principal**, **Boca Raton, FL (7/2016 to present)**
**Experience**:  Patent commercialization of MobileCAD (Patent 7,231,330) a mobile emulation environment for **3G, UMTS, 4G LTE, & 5G** networks, mobility, PCRF, Diameter routing, RRC Signaling, propagation models simulation, virtual drive testing and RF scenarios and MobileIPP (Patent 7,697,508 / 8,213,417) for seamless mobility LTE, Self-Organizing Networks, S1 Handover, X2 handover,  Xn Handover, etc.

**Motorola Inc, Principal Staff Software Engineer, Mobile Devices, Plantation, FL (11/07-5/10)**
*Experience:* Google Android Platform/Application Development, Kernel-level prototyping, Data support, implemented HTTP Push/MMS, DRM content management, Webkit and Opera- based browsers, Lead discussions with customer Sprint/Nextel and Nextel International. I defined Android architecture and the concept of iDEN+5, which seeded Android in Plantation. Assisted in licensing negotiations for Motorola as part of the licensing team.

**Motorola, Inc Sr. Software Staff Engineer, Mobile Devices, Plantation, FL (11/03 -10/07)**
*Experience*:  Feature lead for Java Virtual Machine for Dual-mode devices, J2ME Expert, JSR implementation on BREW architectures, and iDEN/CDMA software interactions. As a feature lead, program management interactions, customer interactions, and 3rd party vendor relationships including licensing (ie Qualcomm). Platform design and development for Windows CE devices and Microsoft Smartphone Platforms, i930 mobile phone.

**Microsoft, Technical Program Manager*, Windows Networking,* Redmond, WA (8/02 - 9/03)**
*Experience*: Feature lead for Bluetooth Personal Area Networking. Responsibilities driving Architecture, Design, Test Automation, security analysis for PAN, and drive testing over networking protocols such as IPv4 and IPv6 networks.

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[1] Previously marketed under MEDIAMPLIFY®

**Microsoft, Program Manager Intern, Windows Networking, Redmond, WA (5/01-8/01)**
*Experience:* Wireless Zero-Configuration (WZC) for Windows XP Service Pack, Power Management algorithm using self-similar traffic modeling, and adaptive adjustment of the duty cycle. IEEE 802.11b/g/a services could be optimized to reduce power consumption from 0 to 80% depending upon network traffic characterization.

**COMPUNET, Entrepreneur/Lead Engineer  Honduras (4/1997-11/09)**
*Experience***:** Owner and founder. Cisco/Linux administrator, Webmaster and senior system engineer and owner. Lead developer for: authentication services, security, web, and networking configuration.


## Expert Witness for Intellectual Property and Patent Cases

1. **University of Florida Research Foundation, Inc. et. al. vs.** Motorola Mobility LLC**.** Filed in U.S. District Court for the Southern District of Florida – Case settled
2. Virtela Technology Services **vs. Andrew Funk**, File in the US District Court of Denver, Colorado, Representing Andrew Funk – Case Settled
3. Del Castillo vs**. Bank of America** – Representing Bank of America – Case settled.
4. Seven Networks vs. **Google** -   Representing Seven Networks
5. **Blue Radios** vs. Kopin - Representing Blue Radios – Colorado
6. **Mobility Workx** vs. T-Mobile – Case Settled
7. **Mobility Workx** vs. Verizon Wireless, Representing Mobility Workx, LLC in E.D. Texas
8. **Mobile Manufacturer** vs. Carrier, Eastern District of Texas, Representing Mobile Manufacturer (Confidential)
9. **Talent Mobile Development** vs. Headios Group (California Federal Court, Trademark/Mobile Software)  – Jury trial testimonial with 700k award to my client.
10. **Key West Golf Club vs. Cable Provider –** Preliminary study – Key West, FL
11. **Express Mobile** vs. DreamHost, LLC **–** Expert Witness – US District Court of Delaware.
12. Stone **vs. AT&T, Velocity** – Expert Witness – Representing AT&T and Velocity – US District of San Diego
13. **Express Mobile** vs Magento, BigCommerce, others – Representing Express Mobile, US E.D District of Texas.
14. Workspot **vs. Citrix** – Expert Witness IPR2019-01002-  – Representing CITRIX  - PTAB
15. DISH Network LLC vs **Multimedia Content Management LLC** - IPR2019-01014 and IPR2019-01015, Representing Multimedia
16. Advising - Pre-trial / 4 Confidential Defendants/Plaintiffs


## Software Audits

- Honduran Government, "National Institute of Properties," Multi-million dollar platform transferred from the World Bank to the Honduran Government
- Auditing of Honduran Elections, fraud detection and analysis (Pro-Bono)

## Publications

- J. Zablah, E. Hernandez, et.al "Enhance Honduras Development with Technology Transfer of High-Performance Computing,"  World Development Journal, Jan 2016.
- E. Hernandez , "War of Mobile Browsers," IEEE Pervasive Computing, vol. 8, no. 1, pp. 82-85, Jan.-Mar. 2009
- E. Hernandez, A. Ayyagari, "Heavily-tailed Network Traffic Modeling for Power Management", IEEE Workshop on Performance and Management of Wireless and Mobile Networks Australia, November 2005
- E. Hernandez, M. Chideste, and A. George, "Adaptive sampling for network management," Journal of Networks and System Management (JNSM), Vol. 9, No. 4, Dec 2001.
- E. Hernandez, A. Helal, "Predictive Mobile IP for Rapid Mobility," IEEE Conf. Wireless Local Networks 2004, Tampa, FL
- E. Hernandez, A. Helal "RAMON: An emulation approach," IEEE Conf. Local Computer Networks 2002, Tampa, FL
- E. Hernandez, A. Helal, "Examining Mobile-IP Performance in Rapidly Mobile Environments: The Case of a Commuter Train," IEEE Conf. Local Computer Networks 2001, Tampa, FL, Nov 14-16, 2001.
- Helal, S. Shah, E. Hernandez, "Mobility Benchmarking In Ad-Hoc Networks," The IPSJ Journal, Vol.43, No.11, June 2002. Approx. 15 pp.
- S. Shah, E. Hernandez, A. Helal, "CAD-HOC: A CAD Like Tool For Generating Mobility Benchmarks In Ad-Hoc Networks," SAINT 2002, Japan, January 2002

## Thesis and Dissertation

- E. Hernandez "*An adaptive protocol for rapid mobile environments*," Ph.D Dissertation, University of Florida, August 2002
- E. Hernandez. "*Adaptive sampling for network management*," M.Sc. Thesis, University of Florida, Dec 1999
- E. Hernandez, Y. Lee. "*Monitoring system of a packet data network,*" B.Sc. Thesis. ITCR, report, July 1995

## Technical Reports and Prior to publications

- E. Hernandez "Mediamplify: A Multimedia Platform for MPEG TV Systems, " Dec 2015
- E. Hernandez, A. Helal, "RAMON: A network emulation environment,"  CISE Department, University of Florida, 2005
- E. Hernandez, A. Helal, "Ghost Mobile IP," CISE Department, University of Florida, 2005.
- E. Hernandez, "DMTF: Authentication for Mobile Phones," Motorola, defensive Publication, 2004

## Patents and Innovations (11 Issued, 4 Pending)

- E. Hernandez, A. Ayyagari, et al. "Method and system for managing power consumption of a network interface module in a wireless computing device," Microsoft Corporation. **Issued US Pat. 7,564,810**
- E. Hernandez, A. Helal, RAMON, "Rapid Mobility Network Emulator Method and System," University of Florida. **Issued US Pat. 7,231,330**
- E. Hernandez, A. Helal, "System, Apparatus, and Method for Proactive Allocation of Wireless Communication Resources," University of Florida, **Issued US Pat. 7,697,508 and US Pat. 8,213,417**
- S. Poursabahian, E. Hernandez, et al, "Bluetooth PAN Driver," Microsoft Corporation, **Issued US Pat. 7,269,388**
- Krantz, E. Hernandez, et al "Rules-based Network Selection Across Multiple Media," Microsoft Corporation, **Issued US Pat 8,788,715, and 7,996,505**
- V. Bhanu, E. Hernandez, et al, "Smart Scan for Bluetooth PAN Services, "Microsoft Corporation." **Issued US Pat. 8,024,487**
- E. Hernandez, K. Ardizzione. "Thumb-based User Interface for Camera Phones," Motorola, Inc, submitted 2005
- E. Hernandez, et al. "Java-based Push to Talk, " **Issued Pat 8,707,337**
- E. Hernandez, "Secure USB Drive," Motorola, Inc, submitted 2005
- E. Hernandez, J. Tracy "Magnetic Connector", Motorola, Inc, **Issued US Pat: 7,331,793**
- E. Hernandez,– **Issued US Pat: 10,123,074**
  - Pending additional patent continuations in USPTO and European Patent Office (PCT)
- E. Hernandez – Anemometer with Augmented Reality – April 2018 – Patent Application
- E. Hernandez **-** System, Method, and Apparatus For Virtualized Operations for Biohazard Waste Destruction with Augmented Reality and Voice Commands – October 2018 – Patent Application (PCT & USPTO)

## Blogs & Podcasts

- FM Radio & Podcast – **Ask Alice** Show – May thru August 2018
- Founder of TECHED TV. http://teched.tv
- Technical articles at medium.com/@edwinhm and edwinhernandez.com

## Skills

**Platform Experience***:* Linux Operating Systems (*Expert Level*), Windows Platforms, AWS, Google Cloud, Microsoft Azure
**Mobile Programming:** Android Development, Mobile to TV, IOS Development for iPad/iPhone/TV, Embedded with Raspberry PI, Android, Legacy: Windows CE, J2ME, Blackberry RIM SDK, Motorola SDKs, Samsung SDK BREW, AMSS/DMSS.
*Software Development languages***:** Python (Django), PHP, Javascript (jQuery, NodeJS, AngularJS), Objective-C, Swift, Java, Java/Android, GNU C/C++, C#, VB.NET, Platform Builder, Java Micro-Edition, J2SE, and MySQL.
*Multimedia Systems:* Cable TV, DVB-C, DVB-S, IP Multicasting, Streaming Platforms, Encoding, Transcoding, Metadata, MPEG TS, Cable & Satellite Systems..
*Wireless Protocols:* UMTS, 4G LTE Handoff, 5G XN, and NFV Platforms. Experience with Wearables, Bluetooth LE, and many PAN systems. Wide experience with GSM, GPRS, and other legacy wireless

standards such as CDMA 2000, iDEN, and others.  Extensive experience with mobility protocols in UMTS, LTE, GSM, Mobile IP, MIH, to older systems like Cellular IP, HAWAII, , AODV, and other systems. Wearables with BNEP and PAN, WIFI and IEEE 802.11 standards.

*Software Defined Radios and Networks:* GNU Radio, RF and Software-based Emulation, Wireless Emulation, Fading, Modulation, & others

*Internet Networking:*  In-depth knowledge of IPv4 and IPv6 protocols, IP tunnels, TCP/IP, Web Sockets. NDIS driver design in Windows platforms, Experience managing and securing Cisco IOS routers networks & firewalls and SNMP management. Fiber optics, IP Tunnels, VPN, Switching, Redundancy.

*Process Management*:  Github, JIRA, TFS & SCRUM

*Data Center:*  Power management, APC, Management, A/C, Distribution, Networking,

*Cloud Computing:* AWS, Google Cloud, Azure, VmWare & XenServer, Docker Containers & Kurbenetes. Cloud storage and platform development of multimedia delivery systems.

*Scientific and Engineering Tools*: MATLAB, pSPICE, OrCAD, Network Simulator (*ns-2*), wide experience in electronic circuit design, digital design, and low-level debugging tools, including PC-104 and circuit design.

*Legacy Programming Languages:*  LISP, PROLOG, FOXPRO, Pascal, Embedded design, Intel assembly code (i8051, x86), and TCL/TK.

## Technology Licensed

- The US patents 7231330, 7697508, and 8213417 are licensed by a major internet and wireless communications companies and are in use to manufacture millions of cellular devices

## Honors and Awards

- Judge for the **Mobile World Congress** in Barcelona, Spain, 2019
- Founding member of **Honduras Global** dedicated to Entrepreneurship, Science & Technology
- **Fulbright-Scholar:** 1997-1999 – US State Department Program.
- 2018 Innovation Awards, City of Coral Springs, FL
- Nov 2018 - 3rd Place Hackathon with "*Eye of the Storm*" at Office Depot, Boca Raton, FL
- Top projects in Emerge Americas 2018 Hackathon with Video Anemometer, Miami, FL
- Fifth Place in Bitcoin Hackathon 2018 with Bitcoin Caster, Miami, FL
  https://github.com/win2013/bitcoin_alexa
- Winner of Kinect/Gesture-controlled Hackathon in Boca Raton, FL
  https://github.com/win2013/airthenticate
- Finalist and presenting EGLA COMMUNICATIONS at Florida Venture Forum in Coral Gables, FL 2015
- Finalist at "Emerge America's" Conference with Mediamplify/MEVIA in 2014, Miami Convention Center
- Finalist with Mediamplify "Music Sparks" in LAB Miami, FL.
- Mention of honor in the Honduran National Science Contest, May 1997.
- Ranked 1st in undergraduate studies, Costa Rica Institute of Technology, July 1995.
    - Four consecutive academic scholarships undergraduate work at Costa Rica Institute of Technology (ITCR), 1991-1995.
- Winner Business Plan Competition in **University of Florida** 2002 and Runner-up in 2001
- *High-Performance Computing and Simulation Lab* student award, spring 1999.

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- In March 2001, as a co-founder of E-melodies, runner-up during the *2001 UF Business Plan Competition* at the University of Florida and winner of the *2002 UF Business Plan Competition in Information Technology*.

## Entrepreneurship

**EGLA COMMUNICATIONS:** Founder and Chief Technology Officer, Startup/Boca Raton FL: Mediamplify Platform (Cloud to Cable TV), Expert Witness Services, Software/Cloud hosting, Multimedia Delivery Services, HulaDrive. www.eglacomm.com | www.eglacorp.com
**EGLAVATOR:** Founder of a Technology incubator in Boca Raton, FL www.eglavator.com
**Mobility Workx, LLC:** Principal, 3G/4G Emulation and Mobile Independent Handoffs under patents 7,231,330, and 7,697,508 also known as MobileCAD and MobileIPP. www.mobilityworkx.co
**UBIWIRELESS, LLC:** Founder, A company dedicated to developing mobile and wireless technologies, including products as RxProfile™ (http://rxprofile.net), FUTMOB, and Ad2Fone, among others (Mobile Applications)
**COMPUNET S. de R. L.** Founder and CTO, Honduras pioneer Internet Service Provider founded in 1997 completed operations in November 2009.

## Personal Information

**Hobbies:** Guitar playing, running, soccer, volunteering, option and derivatives trading.
**Citizenship:** Honduran/US Citizen
**Religion:** Catholic - Salesian Alumni – Instituto Salesiano San Miguel

## Services and Memberships

- Member of Industry Advisory Board for Florida Atlantic University, Electrical and Computer Engineering Department, 2017-present
- **GSMA - 2019 Mobile World Congress**, Judge, Barcelona, Spain
- Emerge Broward and Leadership Broward Member 2014-2016
- Organizing Committee, Mobile Mondays Miami, 2009-2013
- Organizer "Startup Weekend Boca," October 2013
- Hispanic Graduate Student Association, Finance chair, 2001-2002
- Hurricane Mitch Volunteer, Gainesville, FL. October 1998
- ACM, IEEE member, dancing, soccer, and Tae Kwon Do, black belt
- St. Andrew's Catholic church, Life Teen, Coral Springs, FL, 2004-2005
- Member of Lovebags.org, 2007-2009
- Member of Society of Hispanic Professional Engineers, 2009-2010

## Technical Program Committees/Reviewer for International Conferences

- 2019 International Symposium on Electrical and Electronics Engineering, ISEE2019.
- 2019 IEEE Asia-Pacific Conference on Applied Electromagnetics (APACE2019)
- 2019 1st International Conference on Cybernetics and Intelligent System (ICORIS) 2019.
- 2019 IEEE Game Entertainment and Media – Ireland
- **Editorial Board Member and Reviewer**, Journal for Networks and Systems Management,

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from 2004-present

- 2018 Journal of Simulation: Transactions of the Society for Modeling and Simulation International
- 2018 International Conference on Information and Communications Technology (ICOIACT
- 2017 2nd International conferences on Information Technology, Information Systems and Electrical Engineering (ICITEE)
- 2016 Global Summit on Computer and Information Technology
- 2016 International Conference on Information Technology, Information Systems, and Electrical Engineering
- Recent Advances in Communications and Networking Technology
- WCI 2015 – Women in Computing and Informatics
- **Editorial Board** of the Intl. Journal of Networks and Systems 2009-2016
- 2012 (2012 IEEE Symposium on Wireless Technology & Applications).
- IEEE International Consumer Networks, 2011
- IEEE Broadnets - 2008
- IEEE Wireless Networks Magazine, 2002-2003
- IEEE Transactions on Mobile Computing 2007
- IEEE Wireless Local Networks 2005-2007
- IEEE Local Computer Networks 2007-2008
- IEEE GLOBECOM 2005
- IEEE SOUTHEAST CONFERENCE 2005
- IEEE Conferences in 2014-2015
- 2004-2009 - Panelist at 4G Wireless (Miami Beach, FL), several "Mobile Monday" events, and Mobile Commerce Latin America (2009).

## Tutorials

- WEBCONF Latino 2010, Tegucigalpa, Honduras.
- Mobile Computing Platforms, Tegucigalpa, Honduras.
- IEEE SOUTHEAST CONF 2005. "Windows Cryptographic API," A Session Keys Paradigm.
- *Keynote speaker* at "First Tuesday" Tegucigalpa, Honduras, and San Salvador, El Salvador

## Training

- **Tucks Schools of Business – Dartmouth University**, Digital Strategies for Entrepreneurs, Google Campus, Seattle, WA, and December 2016.
- **Management Skills and Business Strategies**, FAU Campus, Boca Raton, FL, January 2014

## Languages

Fluent in Spanish and English. Basic knowledge of German and French

## Teaching Experience

**Teaching Assistant for Mobile Computing,** *University of Florida*, (Spring - Fall 2001)
**Experience:** Mobile Computing is level-6000 graduate class. The class involves the discussion of research papers and a practical section where different wireless technologies are covered. In addition to my job duties, an automated examination tool was developed as additional class aid for grading. The class required J2ME/JSEE knowledge and the ability to support the class with Motorola smart phone development, plus all additional aid required to run the killer application competition sponsored by

Motorola.

**Teaching Assistant for Software Engineering,** *University of Florida* (Fall 2000)
**Experience:** The class was targeted to computer engineering seniors as an introduction to the software development cycle. Students carry-on a web-based project and deliver specific documents and specifications (architectural, design, UI), develop a prototype, schedule different tasks, and manage the project to be delivered on time. The TA assists technically and supervises their work, grades quizzes and exams

**Teaching Assistant for Introduction to CIS/Java,** *University of Florida* (Summer 2000)
**Experience:** I taught an introductory lab session, graded quizzes, exams, and assignments. As an assistant I held different tutorial sessions on object oriented concepts and problem-solving skills.

**Teaching Assistant for C++,** *University of Florida* **(**Spring 2000)
**Experience:** Grading and preparing assignments for the class.

**Instructor at the Central American Internetworking Conference,** (9'1998)
**Experience:** During the conference, I taught a 3-day intensive hands-on class on network security. I covered topics from: network intrusion detection, privacy, and authentication mechanisms

**Instructor*, Central American Telecommunication Videoconferencing* (Summer 1996)
**Experience:** Teaching Linux (Operating Systems), C++, and Networking seminars to engineers all over Central America (Remote teaching)

***Central American Telecommunication Commission,*** Engineer, Honduras, (8/1995 – 5/1997)
**Experience:** Network Engineer, Videoconference systems (VTEL and H.323), software development for telecommunications and traffic management

***United Nations Development Program (UNDP),*** IT Consultant, Honduras, (11/1996 – 5/1997)
**Experience*:*** Network security and consultant for the United Nations program in Honduras. Software auditing and network configuration

## Research Experience

***Research Assistant***, *University of Florida,* Gainesville, FL (Jan '00 – Aug '02)
*Experience*: I investigated the effects of handoff and network mobility at different vehicular speeds. I used Mobile network simulation and emulation were important tools to study Mobile-IP and Layer-2/3 mobility protocols. I developed RAMON, Rapid Mobile Network Emulator, a device that emulates network layer mobility and programmatically replicates mobility conditions varying from signal strength, packet delay, BER, and speeds. RAMON uses real 802.11b Access Points, Omni-directional antennas, embedded computers (e.g. PC-104) and custom-build control circuitry. RAMON also used a .NET interface to automatically create network topologies to be emulated.  In depth routing protocols explored, IP tunnels, and low-level network device driver adjustments.  I conducted extensive simulation work on ns-2

***Research Assistant***, *University of Florida*, Gainesville, FL (Sep '97 - Dec '99)
*Experience:*  I joined thee High-performance Computing and Simulation Research Lab. During my thesis work, I applied Fuzzy Logic in Network Management, focusing on how adaptive sampling could reduce captured statistics without loosing important network behavior. Additionally, I researched ATM networks, SNMP (Simple Network Management Protocol), Virtual Interface Architecture (VIA) over Myrinet, CORBA, and High-performance Cluster Computing topics.

**Program Manager Intern**, *Microsoft Corporation*, Redmond, WA (May – Sep '01)
*Experience*: As an intern, I investigated self-similarity and power management algorithms for Wireless Networks. I modeled the method how service time per packet could be estimated and used for QoS in ad-hoc and infrastructure networks.

**Network Engineer**, *Radiografica Costarricense, R&D,* Costa Rica. (Jan - Jul'95)
*Experience:* I developed a microcontroller-based (x8051 and RUPI-51 micro-controllers) system to measure X.25 and PBX data traffic, Windows-based GUI, and X.25 frame captures

## References

**Dr. Sumi Helal, Full Professor**
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Tel: (352) 392-6845                    Fax: (352) 392-3238
**E-Mail: helal@cise.ufl.edu**              http://www.cise.ufl.edu/~helal/

**Dr. Sukumaran Nair,  Full Professor**
Director AT&T Center for Virtualization
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Dallas, TX 75206 (Expressway Tower)   Phone: (214) 768-2882
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