Andrew Hammoude

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Education

- **University of Washington,** *Seattle, Washington, 1981–1988*
  Ph.D. in Electrical Engineering, 1988
- **University of Toronto,** *Canada, 1974–1978*
  M.S. in Electrical Engineering, 1978
- **University of Cambridge (King's College),** *United Kingdom, 1970–1973*
  B.A. (Honors) in Engineering, 1973
  M.A. in Engineering, 1977

Awards and Honors

- Open scholarship to King's College, Cambridge, 1970–1972
- First year undergraduate engineering design award, 1971
- University of Toronto Teaching Assistant Award, 1977
- Physio-Control Graduate Teaching Fellowship, 1982–1985
- University of Washington Teaching Assistant Award, 1985
- University of Washington Graduate Tuition Scholarship, 1988

Teaching Experience

- **University of Washington,** *1981–1986*

  Taught numerous undergraduate and graduate level electrical engineering courses; see separate Teaching Summary.
- **University of Toronto,** *1974–1978*

  Taught numerous mathematics and electrical engineering courses; see separate Teaching Summary.

Research Experience

Doctoral Research
Department of Electrical Engineering, University of Washington, 1981–1988
Research advisor: Dr. William Moritz

- Designed and implemented a hardware/software system for computer analysis of medical ultrasound images.
- Developed a method for automatic identification of endocardial borders in echocardiographic images.

Master's Research
Department of Electrical Engineering, University of Toronto, 1974–1978
Research advisor: Dr. Hal Smith

- Designed and implemented a system for real-time process control of a mineral ore processing plant at a zinc mine in Quebec, Canada.

Professional Experience

Senior Engineer
Neda Communications Inc., Bellevue, WA, 1999–2009

Neda Communications is an Internet consulting company. It is also an industry leader, with a history of visionary thinking and activism within the Internet and wireless industries.

- On the consulting side: provided Internet and wireless-related consulting services to numerous clients.
- On the leadership/activism side: participated in multiple ground-breaking industry initiatives. In particular, played a critical role in the development of *Libre Services*, a radically new, non-proprietary model for delivery of Internet services, and the *By* unified services model*. These two initiatives have the potential to transform the Internet services industry completely, becoming the new model for delivery of Internet services, planet-wide.
- Authored or co-authored numerous influential industry papers, including: *The Wap Trap*, *Operation WhiteBerry*, *Libre Services: A non-proprietary model for Internet services*, *The By* Concept*, and the *Neda Open Business Plan*.

Engineering Consultant
Seattle, WA, 1991–1999

Provided consulting and/or contract engineering services for numerous clients and projects.

- *Systems analysis services*. Assisted clients in defining project scope and system requirements; created detailed functional specifications. Carried out project feasibility studies; analyzed alternative system configurations; generated estimates of project times and costs.
- *Project management services*. Scheduled and coordinated use of personnel and equipment to achieve project goals, on time and within budget.
- *Engineering design services*. Carried out hardware design and verification at chip level and board level. Created hardware, software and system test plans. Implemented user interfaces for sophisticated medical patient care & monitoring systems.
- *Engineering documentation & writing services*. Created design documentation for various products and systems, including product specifications, functional specifications, and user interface specifications. Wrote hardware design specifications at system level, board level, and chip level. Planned and created end-user documentation such as operations manuals, reference manuals, and user guides.

Owner
IMAGEsystems Inc., Renton, WA, 1988–1991

Involved in all aspects of a high-technology start-up company developing advanced image processing hardware and software systems.

- Created the company Business Plan. Did market research and analysis; defined target markets; established sales and marketing strategies. Formulated plans for all company operations, such as R&D, manufacturing, distribution, sales, service. Determined personnel needs; established a recruitment schedule. Constructed detailed financial projections.
- Created all engineering documentation, including functional and design specifications for both hardware and software. Planned and created all user documentation: tutorials, hardware and software reference manuals, programmer's manuals, user manuals.
- Created all sales/marketing materials: wrote product brochures, data sheets, flyers, press releases.
- Carried out all sales activities: generated and followed up on sales leads, generated first customer sales.

Design Engineer
TransCanada Pipelines, Toronto, Canada, 1979–1981

- Implemented various modifications and enhancements to natural gas compressor stations, to improve plant performance, efficiency, or safety.
- Designed installation of computer hardware and developed software for automatic plant process control.

Publications

1. Hammoude A. "An Empirical Parameter Selection Method for Endocardial Border Identification Algorithms." *Computerized Medical Imaging and Graphics* 25:33-45, 2001.
2. Hammoude A. "Edge Detection in Ultrasound Images Based on Differential Tissue Attenuation Rates." *Ultrasonic Imaging* 21:31-42, 1999.
3. Hammoude A. "Endocardial Border Identification in Two-Dimensional Echocardiographic Images: Review of Methods." *Computerized Medical Imaging and Graphics* 22:181-193, 1998.
4. Hammoude A. "An Empirical Parameter Selection Method for Border Identification Algorithms." *Computers in Cardiology*, 1998.
5. Hammoude A. "Edge Detection in Echocardiographic Images Based on Differential Tissue Attenuation Rates." *Computers in Cardiology*, 1997.
6. Hammoude A. "A Contour Extraction Algorithm for Echocardiographic Images." *Computers in Cardiology*, 1997.
7. Hammoude A and Smith HW. "Experiments with Self-Tuning Control of Flotation." *Proceedings, IFAC Symposium on Automation in Mining, Mineral and Metal Processing*, 1980.