

# Ehry MacRostie

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## PERSONAL PROFILE

Multi-disciplinary software architect and agile team leader with broad experience in product and research settings. I am a doer who helps research teams create and deliver technology through thoughtfully designed software products. Looking to join an innovative technology company in the Boston area building great software and making an impact.

- Twelve years experience in end-to-end software system design, construction and release
- Seven years managing teams in R&D and research-to-product transition
- Three years leading technical teams using Lean and Agile methodologies
- Twelve years research experience in machine learning and human language technologies

## TECHNICAL SKILLS

**Agile:** Scrum, Test Driven Development, Continuous Integration

**Code:** Object Oriented Design Patterns, C, C++, C#, Perl, Java, JavaScript, jQuery, Linq, WCF, xUnit

**Web Services:** REST, SOAP, SOA Design Patterns

**DevOps:** Build-Test-Deploy Automation, Configuration Management, Virtualization-based Test Environments

**Machine Learning:** OCR, Natural Language Processing, HMM, SVM, Feature Extraction

## PROFESSIONAL EXPERIENCE

**Scientist, Raytheon BBN Technologies, Cambridge, MA** (*Jul 2008 – Present*)

As a scientist in the Speech, Language & Multimedia Processing Department I am responsible for the design, construction, release and maintenance of large scale software systems that deliver BBN's multimedia and language processing technologies to end users. I perform a wide variety of roles on a daily basis including hands-on programming, system design, team leadership, customer engagement, and technical mentoring. Representative systems that I have designed and lead end-to-end production of include:

***Multi-Lingual Document Analysis and Translation Service:*** MDATS provides OCR and translation of scanned documents in eleven languages. It is designed as a highly scalable collection of RESTful web services. Released in 2009, this system has been in ongoing development and expansion since. I was responsible for production of the system from concept through release. Current work includes extensive updates to the core technology components to incorporate algorithm advances coming out of a DARPA research program. I am currently driving the adoption of Continuous Integration by the development team.

***NLP for Mammography Reporting:*** Provides a natural language processing capability for automatically mapping spoken radiology reports to a semantic web ontology for advanced indexing and retrieval. This SOAP style web service system was developed for a large radiology hardware vendor. A prototype was featured at the HIMMS 2009 conference.

***Videotext OCR:*** Since 2005 I have participated in and lead a series of research and development projects focused on development and transition of real-time OCR for multi-lingual videotext recognition. Throughout these projects I have worked on every related technical area including machine learning algorithm development, data collection and annotation, technical sub-contractor management, and software system production. I have interfaced with clients, made regular status presentations, represented our technology at conferences and trade shows, and written technical whitepapers. These projects have all been successful and continue to bring in new research revenue on a regular basis.

Other responsibilities as Scientist:

- Provide technical direction and leadership for project teams of 4-6 members
- Train and mentor junior staff
- Write and present technical papers at conferences
- Represent BBN at customer sites, trade shows and in other marketing activities

- Contribute to proposal writing including project estimation and pricing
- Produce marketing materials for presentations and trade shows

**Staff Scientist, BBN Technologies, Cambridge, MA** (*Jan 2005 – Jul 2008*)

As a Staff Scientist I was a key technical contributor on several government and commercial contracts. I did core research on Multi-Lingual Optical Character Recognition (primarily for broadcast news video text), gave technical presentations to customers and at technical conferences, and served as project manager on a number of projects.

Other responsibilities as Staff Scientist:

- Managed and served as key technical contributor for BBN's Video OCR research projects
- Designed and implemented software systems to demonstrate and deploy BBN's OCR, Machine Translation, Named Entity Detection and Topic ID technologies
- Nominated for and completed a year-long project management training program at BBN

**Associate Research Engineer, BBN Technologies, Cambridge, MA** (*Sep 1999 – Jan 2005*)

As Associate Research Engineer I was an individual technical contributor on a wide variety of projects in the speech and language processing field. I did extensive work with Perl, C/C++, .NET and Java in both the Linux and Microsoft Windows environments.

Representative accomplishments as Associate Research Engineer:

- Developed OCR configuration system that allows non-expert users to produce OCR engines for new languages
- Developed application for automatic topic detection of live news from RSS feeds
- Extended OCR technology for new languages including Japanese, Hindi, Thai and Korean
- Built analysis tools for BBN's call center assessment business

## EDUCATION

*TUFTS UNIVERSITY, Medford, MA* (May 2009) M.S. Electrical Engineering

*HARVARD EXTENSION SCHOOL, Cambridge, MA* (2001-2003) Courses in Computer Science

*OHIO STATE, Columbus, OH* (June 1999) B.A. Linguistics, Summa Cum Laude, Phi Beta Kappa

## LINKS

The following are technologies that I have been involved in developing at BBN:

**Optical Character Recognition**

» [http://bbn.com/technology/speech/optical\\_character\\_recognition](http://bbn.com/technology/speech/optical_character_recognition)

**Multi-Media Monitoring Products**

» [http://bbn.com/products\\_and\\_services/bbn\\_broadcast\\_monitoring\\_system](http://bbn.com/products_and_services/bbn_broadcast_monitoring_system)

**Speech-to-Speech Translation**

» [http://bbn.com/technology/speech/speech\\_to\\_speech\\_translation](http://bbn.com/technology/speech/speech_to_speech_translation)

**Natural Language Processing**

» <http://bbn.com/technology/speech/identifinder>