

# Michael Borck

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## Contact Information

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LinkedIn | GitHub | Portfolio (<https://michaelborck.dev>) | Education Platform (<https://michaelborck.education>)

## Teaching Excellence & Innovation

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### Teaching Philosophy & Approach

- **Core Philosophy:** Make Contact Count - maximising impact through every student interaction
- **Conceptual Framework:** Built on three pillars - Caring, Competence, and Passion
- **Pedagogical Approach:** Grounded in Constructivist learning theory, Bloom's Taxonomy, and Universal Design for Learning (UDL)

### Student Satisfaction & Impact

- **100% Satisfaction Scores:** Achieved across ISYS3015 Business Application Development, ISYS2001 Introduction to Business Programming, and ISYS6018 Information Security
- **100% 'Effective Teacher' Ratings:** Across Enterprise Network Security, Business Systems Selection, and Introduction to Programming units

### Student Feedback Highlights

- "Michael is an absolute legend, I love his teaching style"
- "He really did feel like he cared about my learning"
- "The unit was hard, but fun, because he clearly cared about our learning"
- "Michael made it easy for me to gain information"

## Professional Summary

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AI Leader and Cyber Security expert with 25+ years spanning military → academia → industry consulting transition. Author of 4 technical books (Creative Commons licensed), creator of innovative educational AI tools, and pioneer in AI-enhanced pedagogy serving academics, education, agriculture and mining sectors. Technical Lead for Business AI Research Group with a rare combination of technical depth and educational innovation expertise. Teaching philosophy grounded in three conceptual pillars - Caring, Competence, and Passion, with a core principle of "Make Contact Count."

## Key Achievements

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- **Educational Leadership - AI Leader for School of Marketing and Management, led development of AI curriculum serving 500+ students across undergraduate and postgraduate programs**
- **Teaching Excellence - Achieved 100% student satisfaction scores across multiple units (ISYS3015, ISYS2001, ISYS6018) with consistent "effective teacher" ratings**
- **Technical Innovation - Creator of multiple AI-powered educational tools including Reality Reigns, Talk Buddy, and Curriculum Curator with 290+ downloads**
- **Industry Impact - Executive education training delivered to 100+ professionals across 15+ companies in academics, education, agriculture and mining sectors**

- **Assessment Innovation** - Developed award-winning “Cloud Core” virtual company simulation providing authentic industry experience
- **Research Excellence** - 6+ peer-reviewed publications in computer vision and machine learning with focus on mobile mapping systems
- **Open Source Contribution** - Lead developer for Image Processing for Orange, serving the broader scientific community
- **Military Leadership** - Managed critical defence projects including military messaging systems and submarine IT infrastructure

## Leadership & Academic Experience

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### Lecturer — School of Marketing and Management — Curtin University

Feb 2016 – Present | Perth, WA

- **AI Program Leadership** - AI Leader for the School, developing new AI programs within undergraduate and postgraduate curricula
- **Technical Leadership** - Technical Lead for the Business AI Research Group
- **Core Teaching Areas** - AI, Programming (Python), and Cyber Security
- **Curriculum Development** - Backbone developer for Python and Web development programs
- **Cyber Security** - Lead lecturer for cyber security programs with advanced digital forensics curriculum
- **Educational Innovation** - Pioneer in AI-enhanced pedagogy and interactive learning methodologies, with teaching philosophy grounded in Caring, Competence, and Passion
- **Student Engagement** - Achieved 100% student satisfaction scores through innovative assessment design including “Cloud Core” virtual company simulation
- **Executive Education** - Providing AI training to academics, education professionals, agriculture and mining industry executives

### Course Leadership & Development — Curtin University

Ongoing | Perth, WA

- **Course Lead** for Information Systems undergraduate and postgraduate degree programs
- **Unit coordination** across multiple levels - postgraduate, undergraduate, core, non-core, and service units (domestic and international)
- **Advanced Canvas LMS and Blackboard** development and customization
- **Creator** of interactive educational tools and assessment frameworks

### Associate Lecturer — Curtin University

Jan 2001 – Dec 2007 | Perth, WA

- **Academic Leadership** - Provided departmental representation on institutional committees
- **Program Development** - Developed and delivered comprehensive course material for Software Engineering and Computer Science degrees
- **International Coordination** - Managed unit coordination across domestic and international campuses

## **AI, IS & Educational Technology Consultant – Self-Employed**

Jan 2016 – Present | Perth, WA

- AI strategy and implementation consultation
- IS/IT consultation and analysis
- Educational technology consulting and training
- Executive education training in AI for academics, education professionals, agriculture and mining industries

**Recent Projects:** - Stanley College, IT Consultant (2019) - Web Agency Projects: Progressive Changes Psychology Services, Mindarie Mind and Body, Coastal Warriors Martial Arts, Yanchep Martial Arts (2017-2019)

## **Researcher – Curtin University**

Mar 2018 – 2019 | Perth, WA

- Advanced AI Research - Investigation and development of CNN models and their application to the maritime environment
- Applied Machine Learning - Focused research on computer vision applications for marine and coastal monitoring

## **Software Contractor – CRCSI & Landgate WA**

Mar 2015 – Jan 2016 | Perth, WA

- Computer Vision Innovation - Developed automated detection and recognition systems for street sign inventory
- Technical Expertise - Provided specialized skills in machine learning and image processing for government applications

## **IT Consultant – Owner – Bitall IT Consulting Services**

Jan 2008 – Jan 2011 | Perth, WA

- Business Analysis - Provided comprehensive business and technical analysis to diverse client base
- Infrastructure Development - Developed and supported critical backup and monitoring solutions for servers and databases

## **IT Manager – Submarine Systems Centre, RAN**

Jul 1996 – Jan 2000 | Perth, WA

- Strategic IT Leadership - Managed comprehensive information technology infrastructure supporting submarine operations and maintenance
- Executive Advisory - Provided strategic IT guidance to senior military leadership and operational boards
- Organisational Impact - Delivered technology solutions that directly supported critical defence capabilities and mission readiness

## **Project Manager – Command and Control – HQADF**

Jul 1993 – Dec 1996 | Canberra, ACT

- Strategic Leadership - Managed development of critical military messaging systems for Australian Defence Force headquarters
- Project Excellence - Successfully controlled cost, schedule, and quality across multi-year defense communications project
- Cross-functional Coordination - Led technical teams and stakeholder management across multiple defence departments

## **Analyst/Programmer — Manpower and Pay Project — HQADF**

Aug 1991 – Jun 1993 | Canberra, ACT

- **Systems Development** - Designed and implemented large-scale personnel management systems for defence operations
- **Technical Excellence** - Conducted comprehensive code reviews and built sophisticated models using CASE tools
- **Full-cycle Development** - Led data modeling, process modeling, database design, program design, and interface design

## **System Administrator — Manpower and Personnel — RAN**

Mar 1989 – Aug 1993 | Canberra, ACT

- **Infrastructure Management** - Installed, configured, and maintained critical network and computer systems for Royal Australian Navy
- **Crisis Management** - Executed rapid recovery procedures during system failures, ensuring minimal operational disruption
- **Security Operations** - Maintained secure computing environments for sensitive military personnel data

## **Publications**

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### **Books (Self-Published, Creative Commons Licensed)**

- **Python Step By Step in an AI World** – Comprehensive guide to Python programming in the context of artificial intelligence
- **JumpStart Python in the AI Era** – Accelerated learning approach for Python in AI applications
- **Intentional Prompting: Blending AI and Human Oversight** – Strategic guide to effective AI interaction and governance
- **Python Dev Book: From Zero to Production** – Complete development lifecycle guide for Python applications

### **Doctoral Thesis**

- **Feature Extraction from Multi-modal Data** (2017) – Doctor of Philosophy (PhD), GIS, Machine Learning & Computer Vision. Investigates feature extraction methods for imagery and depth data of urban transport corridors from vehicle-based mobile mapping systems

### **Conference Publications**

- Borck, M., G. West, and T. Tan (2014). “Use of multiple low level features to find interesting regions.” ICPRAM 2014, Angers, Loire Valley, France: SCITEPRESS.
- Borck, M., R. Palmer, G. West, and T. Tan (2014). “Using depth maps to find interesting regions.” 2014 IEEE Region 10 Symposium (TENSYMP 2014), Kuala Lumpur, Malaysia: IEEE.
- Borck, M., G. West, and T. Tan (2014). “An image engineering approach to analysing mobile mapping data.” Research at Locate’14, Canberra, Australia: CEUR Workshop Proceedings.
- Palmer, R., M. Borck, G. West, and T. Tan (2012). “Intensity and Range Based Features for Object Detection in Mobile Mapping Data.” XXII ISPRS Congress, ISPRS 2012, Melbourne, Australia: Copernicus GmbH.
- Borck, M. (2000). “Industrial Application of Sensor Nets.” Computer 33(9), 18-26.

## Open Source Projects & Educational Tools

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- **Reality Reigns** – Swipe-based decision game providing interactive fiction storytelling from fantasy adventures to educational simulations
- **Talk Buddy** – AI-based audio interface tool for conversation practice (medical diagnoses, HR discussions, English conversation)
- **Curriculum Curator** – AI-based tool for creating, managing and curating learning materials based on unique teaching philosophies
- **Feed Forward System** – AI-based assessment feedback tool for various assessment types
- **Student Feedback Analyzer** – AI tool that analyzes student feedback forms to suggest course improvements
- **Image Processing for Orange** – Ongoing
- **Graph Merging, Scikit Image** – 2015
- **User Guide, imgAnnotation Tool** – 2014

## Education

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- **Doctor of Philosophy (PhD)**, Computer Science, Curtin University, 2017  
Feature Extraction from Multi-modal Data (GIS, Machine Learning & Computer Vision)
- **Bachelor of Science (Computer Science) (Honours)**, Computer Science, Curtin University, 2001  
A Bayesian Belief Network Approach to Predicting the Prices of Australian Commonwealth Government Interest Rate Securities
- **Graduate Diploma in Business**, Business, Curtin University, 2000
- **Bachelor of Science (Computer Science)**, Computer Science, Australian National University, 1994
- **Bachelor of Applied Science (Mathematics)**, Mathematics, Queensland University of Technology, 1989

## Programming Skills

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**Core Technologies:** Python • C/C++ • C# • Java • JavaScript • Matlab • PHP • CSS • HTML • LaTeX • SQL • Bash **Web Stack:** React • Flask • FastAPI • FastHTML • Vanilla JS • WordPress **AI/ML Stack:** Langchain • TensorFlow • PyTorch • Scikit-learn  
**Educational Tech:** Blackboard LMS • Canvas LMS • Interactive Content Development

## Training & Certifications

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- Google AI Course, 2024
- Microsoft AI Course, 2024
- Cyber Security Training, 2021
- Ethics Reviewer Training, 2021
- Equal Opportunity Work Essentials, 2021
- HDR Supervisors Update, 2020
- Curtin Research Integrity, 2020
- Provide Advanced First Aid, 2012–2019

## Professional Service

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### Service to the Profession

- **Conference Paper Reviewer:** Australian Conference on Information Systems (International), 2019

### Service to the Community

- **Lead Developer:** Image Processing for Orange (2015-2019)
- **User Contribution:** Graph Merging for Scikit Image (2015)
- **User Contribution:** User Guide, Image Annotation Tool (2014)

## Professional Memberships

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- **Certified Professional**, Australian Computer Society (ACS), 2011 (ongoing professional development required)
- **Member**, Institute of Electrical and Electronics Engineers (IEEE) UK, Current

## Personal Interests

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Karate, Muay Thai, Krav Maga, Atari 2600 Programming, Astronomy, Photography

## References

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Available upon request