Francois Mouton
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To whom it may concern   October 22, 2014

Dear Sir or Madam,

I would like to take this opportunity to introduce myself, **Francois Mouton**.

I obtained my BSc Computer Science degree from the University of Pretoria in 2007. As part of this BSc Computer Science degree I also completed all the financial accounting subjects as required for a Bcom degree in order to have a sufficient accounting background. In 2008 I obtained my BSc Computer Science (Honours) degree and in 2012 I obtained my MSc Computer Science degree with distinction also at the University of Pretoria. Along with my MSc Computer Science degree, I also completed all of the undergraduate BA Psychology and Research subjects in order to form a basis for my PhD research in Social Engineering. I also attended an A+ Technician Course from Damelin College in 2004. Currently I am studying towards my PhD Computer Science degree.

During my student years I was employed by the University of Pretoria as an assistant lecturer for undergraduate and postgraduate courses in: Digital Forensics, Computer Security, Computer Networks and Databases.

I was previously employed as an administrator and developer at Abacus Recruitment. I also performed work for Shaya and Cyanre as a digital forensic investigator on a contractual basis. I started working at the CSIR in November, 2011.

I am part of the Information and Computer Security Architecture research group at the University of Pretoria. At this research group I performed extensive research on security, network attacks and digital forensic readiness in a wireless sensor network domain. I am also supervising MSc and honours students at the University of Pretoria within the field of Social Engineering.

I am currently still employed at the CSIR (Council for Scientific and Industrial Research), in the operating unit of Defence Peace, Safety and Security under the Command, Control and Information Warfare competency area. I am a principle developer on several projects on cyber security, digital forensics and mobile security for the South African defence force.

Yours faithfully,

Francois Mouton

Attached: curriculum vitæ

Francois Mouton

Curriculum Vitæ

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Education

In Progress

2012 **PhD Computer Science**, *University of Pretoria*, Pretoria.
Social Engineering Prevention and Awareness

Completed

2009 **2012** **MSc Computer Science (Cum Laude)**, *University of Pretoria*, Pretoria.
Additionally, completed all undergraduate Psychology and Research modules in preperation for PhD

2008 **BSc Computer Science Honours**, *University of Pretoria*, Pretoria.

2008 **IFIP-TC6 Summer School on Wireless Computing**, *University of Pretoria*, Pretoria.

2005 **2007** **BSc Computer Science**, *University of Pretoria*, Pretoria.
Additionally, completed all undergraduate Financial Accounting modules

2004 **Senior Certificate (Distinction)**, *High School Outeniqua*, George.

2004 **A+ Technician Course (Distinction)**, *Damelin*, George.

PhD thesis

title	*Social Engineering Prevention and Awareness*
supervisors	Prof H.S. Venter, Dr L. Leenen
description	The goal of this research is to further define social engineering and develop attack detection models for social engineering. In order to perform this research, ethical requirements for performing social engineering research are developed. During this research several assisting components are developed: An ontological model for social engineering, a social engineering attack framework and social engineering awareness measurements. Furthermore, social engineering attack detection models are developed for bidirectional communication, uni-directional communication and indirect communication. Using the attack detection models the goal is to improve an individual's resilience against social engineering attacks.

Master thesis

title	*Digital forensic readiness for wireless sensor network environments*
supervisor	Prof H.S. Venter

description The contribution of this research is the digital forensic readiness prototype that can be used to add a digital forensics layer to any existing wireless sensor network. The prototype ensures the integrity and authenticity of each of the data packets captured from the wireless sensor network by using the number of nodes in the network that have seen the specific data packet. The prototype does not require any modification to be made on the existing wireless sensor network and is deployed as an additional wireless sensor network. One of the main problems in wireless sensor networks is flooding attacks. The prototype is able to detect flooding attacks and immediately alerts the user and pinpoints the origin of the flooding attack.

Achievements

- Member of the Golden Key Honours Society since 2007.
- One of the top second year students performing the BSc Computer Science degree.
- Received two awards for the final year project in BSc Computer Science. They are respectively Most Viable Business Opportunity and Most Profound Scientific Development Approach.
- Masters thesis forms part of the IT- and Forensic Knowledgebase DVD for the German Federal Police and is supported by INTERPOL, EUROPOL and several academic institutions around the world.
- Invited speaker for the Enterprise Mobility Conference 2014 and presented on Managing and securing our network in the virtual cloud.
- Invited to chair a panel discussion at the Information Security South Africa 2014 conference on ethical concerns regarding social engineering.
- Performed a radio interview on the data breach of the whistle blower website of the South African Police Services.
- Developed an academic LaTeX template utilising the moderncv package and the moderntimeline package and implemented automated BibTeX references.
- Helped out at Electronic Sports World Cup and World Cyber Games Preliminaries to manage the competition and maintain the network throughout the competition.
- Completed the Ekman Micro Expression Training Tool Advanced course.

Languages

| Afrikaans | **Native** | Mother Tongue |
| English | **Fluent** | Daily practice, all work performed in English |

Interests

Gaming	Board Games, Competitive Trading Card Games, Computer Games, Poker
Sports	Adventure Golf, Disc Golf, Formula One
Reality Shows	Amazing Race, Masterchef, Survivor

Workshops Presented

2008
2011

Hands-on ethical hacking and software security, *Information Security South Africa*, Johannesburg.
Presented annually

Experience

Vocational

2011

Information Warfare Specialist, *Council for Scientific and Industrial Research*, Pretoria.
Principle developer on several projects on cyber security, digital forensics and mobile security for the South African defence force. Work within the CSIR is considered restricted and as such cannot be written about in depth.
Tasks and Projects:
- Authored user manuals for applied research applications;
- Developed applications to perform specialised network attacks and reconnaissance;
- Developed applications to harvest public data and perform topic modelling on the data;
- Developed a framework to perform remote network reconnaissance and web based exploitations;
- Investigated hardware and software platforms to determine approved devices for specialist client needs;
- Developed a digital video for security awareness of scholars and young adults;
- Developed malware for the Android operating system;
- Developed and ported hacking tools from a Unix based system to the Android operating system;
- Developed a web based GPU password cracking application;
- Developed security awareness applications to be used by the client;
- Developed a network monitoring tool to determine the layout of the network and to predict network attacks;
- Developed a policy to prevent social engineering in the CSIR environment;
- Developed facial recognition software using the OpenCV framework;
- Presented cyber security awareness to staff on the CSIR campus;
- Developed an application to determine the level of security awareness of an individual;
- Developed a web based application to authorise devices connecting to an access point;
- Developed cyber security challenges for the annual penetration testing competition; and
- Performed penetration tests on the client's network and server infrastructure.
Main duties:
- Author proposals for research projects in line with the needs of the client;
- Actively take part and present at research seminars and research conferences;
- Performed duties as the head of the social committee;
- Perform collaborative research with university and industry;
- Drafted contracts and obtained external funding to perform research projects;
- Supervised students at the university in their masters degrees;
- Actively engage with universities and present guest lectures;
- Maintained own professional development as a researcher;
- Developed several projects as the principle developer;
- Actively take part in external committees such as the ICSA (Information and computer security architecture) research group;
- Acted as project lead on several projects and lead the project development cycle; and
- Improved the RD&I processes at the CSIR in significant ways to improve on the turnaround time of projects.

2006

2011

Assistant Lecturer, *University of Pretoria*, Pretoria.

Presented lectures and practical subjects in the fields of Computer Security and Digital Forensics. Progressed from being a tutor to the position of assistant lecturer.
Detailed positions:
- Assistant Lecturer for Digital Forensics (Postgraduate);
- Assistant Lecturer for Computer Security (Postgraduate & Undergraduate);
- Research Assistant on Wireless Sensor Networks;
- Head Tutor for Computer Security (Postgraduate);
- Assistant Lecturer for Computer Networks (Undergraduate);
- Assistant Lecturer for Databases (Undergraduate);
- Head Tutor for Concurrent Systems (Undergraduate);
- Head Tutor for Operating Systems (Undergraduate); and
- Tutor for C# Programming (Undergraduate).

Main duties:
- Prepared and presented practical sessions on the specified field of the subject;
- Assisted students with learning activities and provided technical assistance where necessary;
- Participated in the development, administration and marking of exams and other assessments;
- Developed novel computer security assignments based on my expertise within the field;
- Developed digital forensic investigation crime scenes for practical exercises based on work experience within the field;
- Encouraged students to participate in international security challenges and provided guidance with challenges;
- Supervised student groups who had to perform final year projects for degree purposes; and
- Assisted in the development of learning material.

October 2011

Digital Forensic Investigator, *CYANRE*, Centurion.

Performed digital forensic investigations for external clients.
Main duties:
- Performed acquisitions of digital evidence from several different types of digital media;
- Performed analysis on digital evidence and identify what activity has occurred on the digital evidence;
- Authored comprehensive reports which presented the facts obtained during the analysis phase; and
- Ensured that a chain of custody of all the evidence items is kept at all times.

2010

Digital Forensic Investigator, *SHAYA*, Johannesburg.

Performed digital forensic investigations for external clients and developed internal software.
Main duties:
- Performed acquisitions of digital evidence from several different types of digital media;
- Performed data recovery on digital media;
- Performed analysis on digital evidence and identify what activity has occurred on the digital evidence;
- Authored comprehensive reports which presented the facts obtained during the analysis phase;
- Ensured that a chain of custody of all the evidence items is kept at all times; and
- Developed internal systems for other projects within the organisation.

Administrator & Developer, *Abacus Recruitment*, Pretoria.

Developed internal applications and performed maintenance and backups of all servers. Main duties:

- Handled all the day-to-day IT problems;
- Developed an internal application which automatically captures and delegates CV's sent in by candidates and external job sites;
- Performed server maintenance and disaster recovery;
- Developed other applications in ASP and Java;
- Maintained the MySQL database of the organisation; and
- Presented internal Java training to the employees.

Miscellaneous

Volunteer, *University of Pretoria Disability Unit*, Pretoria.

Assisted students with bursary applications and scribing exams for students with physical disabilities

Volunteer, *South African Depression & Anxiety Group*, Johannesburg.

Attended a course on depression and suicide counceling for the call center volunteers

CCTV Developer, *Self-employed*, Pretoria.

Installer of a self developed CCTV system. The system is used to monitor people entering and exiting the building. At night it is used for security purposes. It triggers when an object is detected to be human. It then takes a 10 second recording of the events that follow, which is stored on an external server.

Skills

Digital Forensics

Imaging	dd, FTK Imager	**Investigation**	FTK, TSK

Computer Security

Social Engineering	Lock Picking, Micro Expressions, Social Engineering Toolkit	**Exploitation Frameworks**	Armitage, Metasploit
Information Gathering	dnsenum, exploitdb, Maltego, Nmap, Wireshark	**Vulnerability Analysis**	Nesus, openvas, sqlmap
Wireless Attacks	Aircrack-NG, Wifite	**Web Vulnerabily Analysis**	BeEF, Burp Suite, DirBuster, joomscan, Nikto
Password Attacks	Hashcat	**Reporting Tools**	KeepNote

Development

Languages	C, C#, C, Java, Python, Ruby, Shell/Bash	**Web**	Ajax, ASP, Bootstrap, CSS, HTML/XHTML, Javascript, Jquery, PHP
Formats	XML, YAML/JSON	**Databases**	MS Access, MSSQL, MySQL, PostgreSQL, SQLLite
Source Management	Git, SVN	**Tools**	Github, Trac

Systems and Networks Administration

Mail	Exchange, SSMTP	**Backup**	Backup4all
Web	IIS, Apache, VsFTPd	**Networks**	Active Directory, DHCPd, VLANs, OpenVPN
Operating Systems	Backtrack, Debian, Kali, Ubuntu, Windows	**Virtualization**	Amazon Web Services, Linode, Virtual Box, VMWare
Firewalls	Pfsense, Smoothwall, Sonicwall	**IDS**	Snort
Routers	ddwrt, Mikrotik, OpenWRT	**Security**	OpenSSH, PGP/GnuPG, SSL

Office and tools

Office	OpenOffice, Microsoft Office	**Project Management**	MS Project
Wikis	MediaWiki	**Other**	Bibtex, LaTeX, TeX

References

Council for Scientific and Industrial Research

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University of Pretoria

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University of Pretoria

The Council and Senate hereby declare that
at a congregation of the University the degree

Master of Science

in
Computer Science
(with distinction)

with all the associated rights and privileges
was conferred on

Francois Mouton

in terms of the Higher Education Act, 1997 and the Statute of the University

On behalf of the Council and Senate

Vice-Chancellor and Principal

On behalf of the Faculty of Engineering,
Built Environment and Information Technology

Dean

Registrar

2012-04-19

University of Pretoria

The Council and Senate hereby declare that
at a congregation of the University the degree

Baccalaureus Scientiae Honores

with specialization in
Computer Science

with all the associated rights and privileges
was conferred on

FRANCOIS MOUTON

in terms of the Higher Education Act, 1997 and the Statute of the University

On behalf of the Council and Senate

Vice-Chancellor and Principal

On behalf of the Faculty of Engineering,
Built Environment and Information Technology

Dean

Registrar

2009-04-20

University of Pretoria

The Council and Senate hereby declare that
at a congregation of the University the degree

Baccalaureus Scientiae

with specialization in
Computer Science

with all the associated rights and privileges
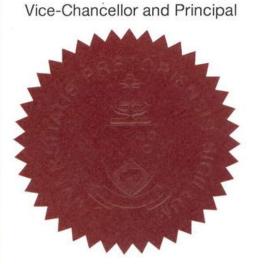was conferred on

FRANCOIS MOUTON

in terms of the Higher Education Act, 1997 and the Statute of the University

On behalf of the Council and Senate

Vice-Chancellor and Principal

On behalf of the Faculty of Engineering,
Built Environment and Information Technology

Dean

Registrar

2008-04-23

Department of

Computer Science

Project Fair 2007

Most Profound

Scientific Development Approach

awarded to

Francois Mouton

for

Porthole by Whiteboard Studios

Sponsor: _____

Lecturer: _____

Dariel Solutions

Department of

Computer Science

Project Fair 2007

Most Viable Business Opportunity
Sponsored by SoftStartBTI and Maxum

awarded to

Francois Mouton

for

Porthole by Whiteboard Studios

softstart BTI >>

maxum
Business Incubator at THE INNOVATION HUB

Sponsor: _____

Lecturer: _____

Golden Key International Honour Society

To Whom These Letters May Come

~ Greetings ~

This Certifies That

Francois Mouton

In Recognition of Outstanding Scholastic Achievement and Excellence, has
been granted membership in the Golden Key International Honour Society
and is hereby granted all the Rights, Honours, and Privileges

pertaining to the Society at

University of Pretoria

2007

Bill Asbury
International Leadership Council President

Max V. Vest
International Leadership Council Vice President

Cecilia A. Manrique
International Leadership Council Secretary

Chief Executive Director

UMALUSI

Council for Quality Assurance in General and Further Education and Training

SENIOR CERTIFICATE

Awarded to

FRANCOIS MOUTON

Identity number   8605255014084

Subjects passed

Afrikaans : First Language	HG	B	70%-79%
English : Second Language	HG	B	70%-79%
Mathematics	HG	A	80%-100%
Physical Science	HG	A	80%-100%
Accounting	HG	A	80%-100%
Computer Studies	HG	A	80%-100%
Aggregate (PASSED WITH DISTINCTION)		M	1680+

********   ********

ENDORSEMENT
This candidate has complied with the minimum
statutory matriculation requirements for admission
to bachelor's degree study at a university in
the Republic of South Africa

With effect from   December 2004

Chief Executive Officer

This certificate is issued in accordance with Section 16(4) (e) of Act 58 of 2001 by
Umalusi Council for Quality Assurance in General and Further Education and Training.

050 6197 9136 J

**REPUBLIC OF
SOUTH AFRICA**

This certificate is issued without alteration or erasure of any kind

(See reverse for more information)

108151

Universiteit van Pretoria

Departement Rekenaarwetenskap

Hiermee word gesertifiseer dat

Mnr F Mouton

puik akademiese prestasie in 2006 behaal het

en is een van die top tweedejaar studente in

Rekenaarwetenskap

Hoof: Departement Rekenaarwetenskap
Voorsitter: Skool vir Inligtingtegnologie

Datum: 9 Mei 2007

CERTIFICATE

IFIP-TC6 Summer School on
WIRELESS COMPUTING

Pretoria, 8-11 October 2008

We, the undersigned, hereby certify that

Francois Mouton

has successfully attended and completed

Module 1 - Wireless Communications
Module 2 - Wireless Architecture
Module 3 - QoS in Wireless Network
Module 4 - Wireless Security
Module 5 - Web Multimedia Services

The Chair of the TC6 6.9 Working Group
Communication Systems for Developing Countries
Prof. Ana Pont Sanjuan

South African IFIP Committee
represented by IFIP TC 6 member,
University of Cape Town
Prof. Pieter Kritzinger

Issued: Pretoria, 11 of October , 2008