

2009 年度総合情報基盤センター研究室活動報告

1. 学生受け入れ状況

4 年生 : 5 名

博士前期課程 : 6 名 (M1:3 名, M2:3 名)

博士後期課程 : 5 名 (D1:1 名, D2:1 名)

短期留学生 : 2 名

氏名:Mr. Emmanuel GERVAIS

所属:Graduate School of Electronics, Computer Science and Telecom of Bordeaux
(France)

留学期間:2009/06/06 ~2009/09/18

研究テーマ: Development of a Virtual Environment on a Personal Computer within
a Web Browser

氏名:Min Lei

所属:Guilin University of Technology (China)

留学期間:2009/10/1~2010/3/22

研究テーマ:Detection of Host Search Activity in Domain Name Reverse Resolution
Traffic

2. 指導学生研究活動

(1) 卒業論文

川村 諒(杉谷研究室)

「実環境における無線 LAN 受信電波強度を用いた位置推定手法の検討」

熊谷 将也(武蔵研究室)

「DNS 名前解決要求流量監視による SSH 辞書攻撃検知手法の提案・評価」

丸山 大輔(永井研究室)

「講義ビデオにおける肖像権保護のための顔情報保護手法の提案」

龍 弘大(中野研究室)

「検索結果を題材とする多言語対応タイピングツールの開発」

濱本 寿一(入口研究室)

「磁気共鳴感度の設計理論」

(2) 修士論文

竹本 昇平(入口研究室)

「磁気共鳴感度の設計理論」

野田 侑嗣(中野研究室)

「テンプレートマッチングによる講義スライドからの文字情報自動抽出システムの開発」

(3) 博士論文

水内宣夫

「脊髄神経の画像化における拡散強調を用いた非侵襲的 in vivo 磁気共鳴映像法に関する研究」

丸山克也

「体幹部の磁気共鳴アンギオグラフィとスペクトロスコピーにおける脂肪抑制の応用に関する研究」

諸井貴

「磁気共鳴画像装置を用いた生体における上腹部等方形ボクセルの高画質化に関する研究」

3. 研究業績

3-1. 論文

- (1) Kazuya Takemori, Dennis Arturo Ludeña Romaña, Shinichiro Kubota, Kenichi Sugitani and Yasuo Musashi: Detection of NS Resource Record DNS Resolution Traffic, Host Search, and SSH Dictionary Attack Activities, *International Journal of Intelligent Engineering and Systems* Vol. 2, No. 4, pp. 35-42 (2009)
- (2) Dennis Arturo Ludeña Romaña, Shinichiro Kubota, Kenichi Sugitani and Yasuo Musashi: DNS-based Spam Bots Detection in a University, *International Journal of Intelligent Engineering and Systems* Vol. 2, No. 3, pp. 11-18 (2009)
- (3) M. Sekino, H. Ohsaki, S. Yamaguchi-Sekino, N. Iriguchi, and S. Ueno, "Low-frequency conductivity tensor of rat brain tissues inferred from diffusion MRI," *Bioelectromagnetics* 30(6):489-499, 2009
- (4) N. Mizuuchi, K. Maruyama, T. Moroi, C. Imura, I. Isobe, T. Sueyoshi, T. Usagawa and N. Iriguchi, "Visualizing Nerve Roots of the Spinal Cord Using a 3 T MRI without Contrast Agents." *INFORMATION* 12(3): 697-708, 2009
- (5) T. Moroi, K. Maruyama, N. Mizuuchi, T. Moroi, C. Imura, I. Isobe, T. Sueyoshi, T. Usagawa and N. Iriguchi, "T2 Weighted Isotropic Imaging of the Abdomen at 3T :Combination of Variable-Refocusing-Flip-Angle Technique SPACE and Navigator Triggering Technique PACE." *INFORMATION* 12(3): 709-720, 2009
- (6) K. Maruyama, N. Mizuuchi, T. Moroi, C. Imura, I. Isobe, T. Sueyoshi, T. Usagawa and N. Iriguchi, "Diffusion-weighted MR Imaging and 1H MR Spectroscopy for Studying Prostate Cancer at 3 T without an Eendorectal Coil." *INFORMATION* 12(1): 193-208, 2009
- (7) K. Maruyama, M. Tozaki, N. Mizuuchi, T. Moroi, O. Takizawa, T. Usagawa, T. Sueyoshi, and N. Iriguchi, "1H MR Spectroscopy of Small Breast Tumors using Lipid Suppression at 1.5 T." *Medical Imaging Technology* 27(2): 91-96, 2009
- (8) Muhammad Wannous, Hiroshi Nakano: NVLab, a Networking Virtual Web-Based Laboratory

that Implements Virtualization and Virtual Network Computing Technologies, IEEE Transactions on Learning Technologies, Vol. 3, No. 2, pp.129-138 (2010)

3 - 2. 国際会議

- (1) Dennis Arturo Ludeña Romaña, Yasuo Musashi, Kazuya Takemori, Shinichiro Kubota, Kenichi Sugitani, Tsuyoshi Usagawa, and Toshinori Sueyoshi: DNS Based Detection of SSH Dictionary Attack in Campus Network, Proceedings of the *Fifth International Conference on Information (INFORMATION 2009)*, Kyoto, Japan, pp. 134-137 (2009)
- (2) Dennis Arturo Ludeña Romaña, Kazuya Takemori, Shinichiro Kubota, Kenichi Sugitani and Yasuo Musashi: Towards the Design of Hardware Based Security Device and Communication Implementation, *Proceedings of the Second International Conference on Intelligent Networks and Intelligent Systems (ICINIS 2009)*, Tianjin, China, pp. 250-252 (2009)
- (3) Kazuya Takemori, Dennis Arturo Ludeña Romaña, Shinichiro Kubota, Kenichi Sugitani and Yasuo Musashi: Detection of NS Resource Record based DNS Query Packet Traffic and SSH Dictionary Attack Activity, *Proceedings of the Second International Conference on Intelligent Networks and Intelligent Systems (ICINIS 2009)*, Tianjin, China, pp. 246-249 (2009)
- (4) K. Maruyama, N. Mizuuchi, T. Moroi, T. Usagawa, T. Sueyoshi and N. Iriguchi, "MR Angiography of the Abdominal Artery by IR-prepared, Segmented TrueFISP at 3T without Contrast Agents." IEEE-CME, Arizona 2009
- (5) T. Moroi, N. Mizuuchi, K. Maruyama, S. Takemoto, I. Isobe, T. Usagawa, T. Sueyoshi and N. Iriguchi, "Motion Artifact Reduction by Randomized Phase Encoding (RPE) TSE." IEEE-CME, Arizona 2009
- (6) N. Mizuuchi, K. Maruyama, T. Moroi, S. Takemoto, T. Sueyoshi, T. Usagawa and N. Iriguchi, "Depiction of the Spinal Cord by Diffusion Weighted Imaging." IEEE-CME, Arizona 2009
- (7) S. Takemoto, M. Migita, N. Mizuuchi, K. Maruyama, T. Moroi, T. Sueyoshi, M. Sekino and N. Iriguchi, "Multidirectional RF Coils for MRI." IEEE-CME, Arizona 2009
- (8) Muhammad Wannous, Dennis Ludena, Hiroshi Nakano: A Virtual-Network Educational Management Interface for Motivating Learners in Web-based ICT, International Conference on Media in Education (IcoME2009), Seoul, Korea, pp.286-291 (2009)

3 - 3. 国際・国内学会研究会

- (1) Min Lei, Yasuo Musashi, Dennis Arturo Ludeña Romaña, Kazuya Takemori, Shinichiro Kubota, and Kenichi Sugitani: Detection of Host Search Activity in Domain Name Reverse Resolution Traffic, *IPSJ Symposium Series (IOTS2009)*, Vol. 2009, No. 15, pp.91-94 (2009)
- (2) 古川誠一, 副島慶人, 川村諒, 久保田真一郎, 杉谷賢一, 教育用情報端末を利用した講義における出欠管理システムの構築, 第 62 回電気関係学会九州支部連合大会 (2009)
- (3) 川村諒, 副島慶人, 久保田真一郎, 古川誠一郎, 杉谷賢一, 実環境における無線 LAN 受信信号強度を用いた位置推定手法の検討, 第 8 回インターネットと運用技術研究会, 電子情報通信学会技術研究報告 No. 109(438), p.295-298 (2010)
- (4) Dennis Arturo Ludeña Romaña, Kazuya Takemori, Shinichiro Kubota, Kenichi Sugitani and Yasuo Musashi: Detection of NS Resource Record DNS Resolution Traffic, Host Search, and SSH Dictionary Attack Activities, *IPSJ SIG Technical Reports, Internet Operation and Technology 5th (IOT05)*, Vol. 2009-IOT05, No. 14, pp.1-6 (2009)
- (5) Kazuya Takemori, Wei Juan Kong, Dennis Arturo Ludeña Romaña, Shinichiro Kubota, Kenichi Sugitani and Yasuo Musashi: Entropy Study on A Resource Record Query Traffic from the Campus Network, *IPSJ SIG Technical Reports, Internet Operation and Technology 4th (IOT04)*, Vol. 2009, No. 21, pp.101-106 (2009)
- (6) Yasuo Musashi: Installation of Security Policy into Kumamoto University and DNS based Detection System Incidents in the Campus Network, *IPSJ SIG Technical Reports, Internet Operation and Technology 4th (IOT04)*, Vol. 2009, No. 21, pp.191-196 (2009)
- (7) 近藤雄貴、永井孝幸、中野裕司, Wikipedia データを活用した SCORM 準拠タイピング

- ツールの開発, 第 12 回情報処理学会教育学習支援情報システム研究会, No. 12, pp.96-103 (2009-09)
- (8) 野田侑嗣、永井孝幸、中野裕司, 高解像度キャプチャされた講義スライドに対する OCR 適用結果の報告, 第 12 回情報処理学会教育学習支援情報システム研究会, No. 12, pp.104-107 (2009-09)
- (9) M. Takeuchi, S. Ueno, T. Usagawa, T.Sueyoshi and N. Iriguchi, "Measurement of T2 Relaxation Time and Fiber Orientation Degree of Collagen Gel Exposed to a Magnetic Field." 5th International Conference on Information, Kyoto 2009
- (10) Muhammad Wannous, Hiroshi Nakano: Integrating a Web-based ICT Laboratory into the Context of Online Courses Delivered within the e-Learning System Sakai, The 62nd Joint Conference of Electrical and Electronics Engineering in Kyushu, Iizuka, Fukuoka, 12-1A-10 (2009)